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VOL. 34 NO. 24

GLEANINGS IN BEE CULTURE

DECEMBER 15, 1906



Home, sweet home of the busy and the blest!
Sleep, beloved, sleep; well earned thy rest.
Winter hobers, bringing slumber and repose;
Thou art alworthy—awaken with the rose.

SPECIAL CHRISTMAS NUMBER

ENTERED AT THE POST OFFICE MEDINA, OHIO, AS SECOND CLASS MATTER

BEE-KEEPERS

We carry the largest stock of goods in the Middle West. The low freight rates from

Toledo

will save you money. We will buy your HONEY and beeswax, and pay highest market price. It will pay you to correspond with us when your crop is rea y to market. No shipment is too large for us. Carloads a specialty.

Queens! Queens!

We have a yard at Toledo with 100 colonies and over, which we use for queen-rearing only besides several out-yards which we run for honey, also for extra bees and brood, and queens; are mailed same day order is received.

Our 70-page Catalog

is sent free to any one asking for it. No matter whether you keep one colony or five hundred. We also handle a large line of poultry supplies, and sell eggs for hatching. Our 1906 mailing list is sent with every catalog. Don't buy until you have seen it.

Griggs Brothers

523 Monroe St. : Toledo, Ohio

European Bee-keepers!

Save Time and Expense

by sending direct all your orders and correspondence to our exclusive agent for the European continent and its colonies. . .

EMILE BONDONNEAU

142 FAUBOURG - ST. DENIS, PARIS

Prompt Service and Satisfaction Guaranteed. . . .

The A. I. Root Company

CENTRAL AND NORTHERN

PENNSYLVANIA

Distributor of Root's Goods from the Best Shipping - point in this State.

WHOLESALE - AND - RETAIL

I sell at catalog prices, and, with the low low freight rates of the competitive railroad companies, I can save you money by way of transportation charges.

In soliciting your orders I will assure you that every inducement consistent with conservative business is afforded my customers.

I also **rear** Italian and Caucasian queens from the best stock that money can secure. Write for my descriptive price lists of queens and bee-keepers' supplies—both free.

Beeswax taken in exchange for supplies.

E. E. PRESSLER, WILLIAMSPORT, PENN.

Headquarters for

Bee - Supplies.

"Root's Goods at Root's Factory Prices."

If you want to purchase bee-supplies, THE BEST MADE, order from Cincinnati, as you will save the freight charges and time it takes for goods to be shipped from Medina to Cincinnati. Cincinnati is one of the best shipping-points, particularly for the South. I keep all the time a large stock on hand and can ship promptly on receipt of order.

A Special Discount on Early Orders

Will buy or sell **HONEY** extracted or comb

If you have honey to sell describe quality or mail sample with lowest price delivered Cincinnati. If in need, state quality and quantity wanted and we will cheerfully quote you prices.

Beeswax Wanted!

We all the time pay highest market price on delivery of goods.

C. H. W. WEBER,

Office and Salesroom, 2146-2148 Central Ave.
Warehouse, Freeman and Central Avenue.

Cincinnati, - Ohio.

Honey Markets.

GRADING-RULES.

FANCY.—All sections to be well filled, combs straight, firmly attached to all four sides, the combs unsoiled by travel stain, or otherwise; all the cells sealed except an occasional cell, the outside surface of the wood well scraped of propolis.

A No. 1.—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled or the entire surface slightly soiled; the outside surface of the wood well scraped of propolis.

No. 1.—All sections well filled except the row of cells next to the wood; combs comparatively even; one-eighth part of comb surface soiled, or the entire surface slightly soiled.

No. 2.—Three-fourths of the total surface must be filled and sealed.

No. 3.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

CINCINNATI.—The honey market is in a healthy condition, particularly extracted honey, the demand being better than one year ago. This is probably due to the excitement among those holders who are trying to inflate prices. Quote amber extracted honey in barrels at 6 to 7, according to the quality; fancy table honey in barrels and 60-lb. cans, 8 to 9. The demand for comb honey has decreased somewhat, owing to the season of the year, when the sale of that article suffers. Offer fancy white comb honey in a wholesale way at 15 to 16. The above are our selling prices. For choice yellow beeswax we are paying 30 delivered here.

THE FRED W. MUTH CO.,
Dec. 7. 51 Walnut St.

TOLEDO.—The market on comb honey remains firm. Prices have not advanced any to speak of. Fancy brings 16; extra fancy, 17; No. 1, 15. The demands are equal to the receipts. Extracted honey in barrels brings 6½ to 7; cans, the same. Very little is offered, and stock seems to be well cleaned up. Beeswax is more plentiful, and brings 27 cash, 28 trade. The weather is now getting cold, and we do not look for very many offers on comb honey.

Dec. 8. THE GRIGGS BROS. & NICHOLS CO.

CINCINNATI.—The market on comb honey seems to be a little quiet. No. 1 sells wholesale for 14½; retail by the case, 16 per lb.; extracted, firm; light amber, in barrels, 6; in cans, 7. White-clover extracted, 8½ per lb. Beeswax, 30.

C. H. W. WEBER,
Dec. 8. 2146-2148 Central Av.

ZANESVILLE.—The demand for honey is a little lighter than at time of last report. Ruling prices about $4 for fancy white comb and $3.75 for No 1 in 24-section cases. There is not the demand for either comb or extracted that would naturally be expected at this season. For beeswax, jobbers are paying 27 to 30.

Dec. 10. E. W. PIERCE, 136 W. Main St.

CHICAGO.—There is the usual dullness in the honey trade at this time, owing to most of the retailers having stocked up sufficiently to carry them over the holidays; but the stocks in the hand of the trade generally are below the normal, hence prices are firm at 15 to 16 for No. 1 fancy; white comb honey, with off grades, 1 to 2c less; amber grades dull at 10 to 12; extracted white, firm at 8 for clover and basswood; ambers 6½ to 7½. Beeswax, 30.

R. A. BURNETT,
Dec. 7. 199 So. Water St.

ST. LOUIS.—The receipts of comb honey have not increased sufficiently to meet the urgent demand for the article. The market is very firm for fancy white comb at 16c; No. 1 at 15c; light amber 14 to 15c; broken and inferior less. Extracted honey is not as scarce as the comb honey, but there is a good demand for light amber California at 7 to 7½c; Spanish-needle at 7½c. The receipts are also very small, especially of white-clover honey. Barrel honey is in good demand at 5½ to 6c for choice Southern. Beeswax firm at 29½ to 30c. All impure and inferior less.

R. HARTMAN & CO.,
Dec. 8. 14 So. Second St., St. Louis, Mo.

BUFFALO.—Comb honey is selling slow here. Prices are steady, but will be easy soon if demand does not improve. Buckwheat and mixed moving slower than white. Fancy white comb, 15 to 16; A No. 1 white comb, 15 to 16; No. 1 white comb, 14 to 15; No. 2 white comb, 12 to 13; No. 1 buckwheat, 11 to 12; No. 2 buckwheat, 10 to 11; No. 1 white extracted, 7 to 8; amber extracted, 6 to 6¼; dark extracted, 6 to 6½.

Dec. 10. W. C. TOWNSEND.

NEW YORK.—Comb honey in good demand, and No. 1 and fancy white stock seems to be pretty well exhausted. Buckwheat in sufficient supply, also off grades of white, to meet all demands, but there is no overstock as yet. We quote fancy white at 15; No. 1 at 13 to 14; No. 2 at 12; buckwheat and amber at 11, according to quality and style of package. Extracted firm at unchanged prices. California white sage, 8c; light amber at 7 to 7½; buckwheat, 6 to 6½. Beeswax steady at 30.

HILDRETH & SEGELKEN,
Dec. 8. 265-267 Greenwich St., New York.

SCHENECTADY.—As is usually the case, the holiday trade has set in and the demand for honey has fallen off at once. However, the stock on hand is not as large as usual at this time of year, and prices are not apt to advance with a decreasing demand. We quote same as in last issue. We have call for 60-lb. cans, extracted, both light and dark.

Dec. 10. CHAS. MACCULLOCH.

KANSAS CITY.—The demand for comb and extracted honey is good, receipts light. We quote fancy white comb, 24 sections, per case, $3.25; No. 1 white comb, 24 sections, per case, $3.00; No. 2 white comb and amber, 24 sections, per case, $2.75; extracted white per lb., 7 to 7½; extracted amber, 6½ to 7. Beeswax, 27.

Dec. 6. C. C. CLEMONS & CO.

Honey and Wax Wanted and For Sale. See Classified Ads. on pages 1614–'15.

To Our Friends and Patrons:

We wish you Merry Christmas and a Happy and Prosperous New Year.

The Fred W. Muth Co., Cincinnati.

Line-bred Three-banded

ITALIAN : QUEENS

Mated to Select Drones

I have spared neither time nor expense to have the finest honey-gatherers in existence. I guarantee safe arrival, satisfaction, and superior honey-gatherers.

W. M. Parrish, Rt. 8, Lawrence, Ks.

Brazos Valley Apiary

will sell you as good Italian queens or nuclei or full colonies of bees at reasonable prices. We have the best stock. No better. We also keep bee-supplies. Give us a trial order. Cut this out—you may need our bees.

C. S. Phillips, Prop'r, Waco, Texas

Chas. Israel & Brothers

486-490 Canal St., New York

Wholesale Dealers and Commission Merchants in

Honey, Beeswax, Maple Sugar and Syrup, etc.

Consignments Solicited. Established 1875.

FOR SALE.--Extracted honey, strictly pure, buckwheat, 6½c; clover mixed, 7c in 60-lb. cans and 150-lb. kegs. This State production; best flavor.

H. R. WRIGHT,

Wholesale Commission, Albany, N. Y.

The Danzenbaker Twentieth Century Smoker

Awarded Highest Prize

A GOLD MEDAL

at the World's Fair, St. Louis, 1904.



BEST,
COOLEST,
CLEANEST,
STRONGEST.
CHEAPEST.

Largest Smoker Sold for a Dollar.

We Send Direct from Factory to Buyer when the Nearest Supply-dealer Does not Keep It.

It has a side grate that strengthens the fire-cup, and holds a removable metal and asbestos lining that keeps it cool, adding to its durability. It has no valves to get out of order or snout to clog.

Every Thing Guaranteed "Root Quality."

ALL THAT IS CLAIMED.—The General Manager of the National Bee-keepers' Association says:

I have given your Twentieth Century a thorough trial. For convenience in lighting, durability, and long time one filling will last and give ample smoke I find it all you claim. In the spring I shall want several. I always want the best.

N. E. FRANCE, Platteville, Wis.

Price $1.00; three for $2.50.
By mail add 25 cents for postage.
Send for circular giving fuller details.

F. DANZENBAKER, MIAMI, FLORIDA

WE WILL BUY

New crop honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

WE WILL SELL

to Bee-keepers whose crop is not large enough to supply their trade, various grades of honey. Let us know your wants and we will do our best to satisfy you.

BEESWAX. We are in the market to buy beeswax at any time of the year. Write us when you have any to sell.

HILDRETH & SEGELKEN,

265-267 Greenwich St., NEW YORK, N. Y.

Established 1873
Circulation 30,000

64 pages, semi-monthly
$1.00 per year

Gleanings in Bee Culture

Devoted to Bees, Honey, and Home Interests

Published by
THE A. I. ROOT CO., Medina, Ohio

J. T. CALVERT, Business Manager
A. L. BOYDEN, Advertising Manager

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Find enclosed.....for which please send me Gleanings in Bee Culture.....months, and.....as per offer.....

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Postoffice..... .....

County..... State.....

Date..... If you want Gleanings discontinued at expiration, check here( )

TWO YEARS FOR $1.00



FTER a man succeeds in publishing a good journal, the next step is that of getting it into the hands of the people, of getting them to reading it, and becoming acquainted with its merits. This can be done by advertising, sending out sample copies, circulars, etc. All this costs money. I think I am safe in saying that, for every new subscriber I have received, I have paid $2.00 in advertising; hence, I have always said that a publisher of a good journal could afford to send his paper one year free for the sake of getting it into new hands. It would cost no more than other forms of advertising, and would be more effective; but, for obvious reasons, this plan could not be put into practice; but I am going to come as near to it as I can. I have between 200 and 300 complete sets of back numbers for the present year; and as long as the supply holds out I will send a complete set, and the rest of this year free, to any one who will send me $1.00 for the Review for 1907.

Back numbers of the Review are different from those of newspapers and some journals. The information that they contain is just as valuable now as when first published. In an advertisement like this it is impossible to give much description, but I will mention one or two features of each issue of

THE REVIEW FOR 1906

JANUARY.—The keynote of the Review for 1906 is "**THE CONTROL OF INCREASE;**" and Mr. Gill, of Colorado, starts off by telling how he completely and *profitably* controls the increase of 1000 colonies run for comb honey.

FEBRUARY.—R. C. Aikin shows how, with a **knowledge of principles,** increase can be controlled; but perhaps the most valuable contribution to this issue is from R. F. Holtermann, of Canada, describing "Some Short Cuts in the Production of Extracted Honey."

MARCH.—In this issue is illustrated and described the only really successful **non-swarming hive** that has yet been invented. Its inventor, Mr. L. A. Aspinwall, secured an average of 140 pounds of comb honey the past season from fifty colonies, and had no swarms.

APRIL.—The most valuable article is this issue is from C. A. Olmstead, of New York, in which he illustrates and describes a method of **foretelling swarming** without opening the hive.

MAY.—In this issue is begun a series of the most delightfully and beautifully **illustrated sketches** that have ever appeared in the Review—that of the editor's experience in locating and managing three out-apiaries in the wild, picturesque, raspberry region of Northern Michigan.

JUNE.—The article this month on "Control of Increase," is by that veteran, J. E. Crane, of Vermont, and shows how to do the work when the **harvest comes early.** This issue also gives the editor's experience in moving his 400 colonies into Northern Michigan—illustrated with four engravings.

JULY.—This issue has a beautiful full-page illustration of the Review apiary here at Flint (105 colonies), and the editor gives a resume of his work in this apiary for the first six months of the year—showing **where he failed** and why he succeeded.

AUGUST.—In this number the editor tells of "Reaping the Harvest in Northern Michigan," and gives pictures of the different apiaries, some at old **abandoned lumber-camps,** one with a tent for a honey-house, while the reading-matter has an actual flavor of the wild northern woods.

SEPTEMBER.—Of all the articles in this year's Review I doubt if any one is more really helpful than the one in this issue by the editor, entitled "Conveniences in the Production of Extracted Honey." It has several illustrations, and shows how to use bee-escapes without the **back-aching work** of lifting the hives by hand; how to make a honey-knife cut as "slick as a razor;" how to make an uncapping-can for ten cents; how to arrange a cheap automatic strainer, and run the honey directly into the cans; and how to arrange an electric bell, at a cost of 60 cts., that will ring when the can is full.

Instead of mentioning some of the special features for October, November, and December, let me use the space to say that **one of the good things** that will appear in the Review for 1907 will be a series of articles from E. D. Townsend, Michigan's foremost bee-keeper. All of his writings in the past have been fragmentary, a glimpse here and there, and they have been scattered here and there in different journals. Now he is going to write in a consecutive manner, starting at the beginning of the season and going through the year—just as though he were writing a book. It will give his system of management.

ADVANCED BEE CULTURE

This is a book of 230 pages, beautifully printed, bound, and illustrated, that discusses bee-keeping from a money point of view—shows how to make a pleasant and profitable BUSINESS out of bee-keeping. Price $1.20; or, the Review for 1907 (and all of the back numbers of this year free) for only $2.00.

W. Z. Hutchinson. Flint, Mich.

Gleanings in Bee Culture

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At St. Louis

On a  Line

to all points in the South and Middle West.

Send for our free illustrated catalog of

Root's Bee-supplies

We sell at factory prices, and are allowing a four per cent cash discount during December. Send us a trial order.

Beeswax Wanted.

Blanke & Hauk Supply Co.

DEPT. B,

202-204 Market St., **St. Louis, Mo.**

Manufacturers and Jobbers of Dairy, Creamery, Ice-cream, and Poultry Supplies.

Northwestern Bee-keepers!

We are headquarters for the ROOT supplies for the States of Montana, Minnesota, the Dakotas, and Western Wisconsin.

You can save freight by ordering from this branch. A complete line of bee-keepers' supplies always in stock.

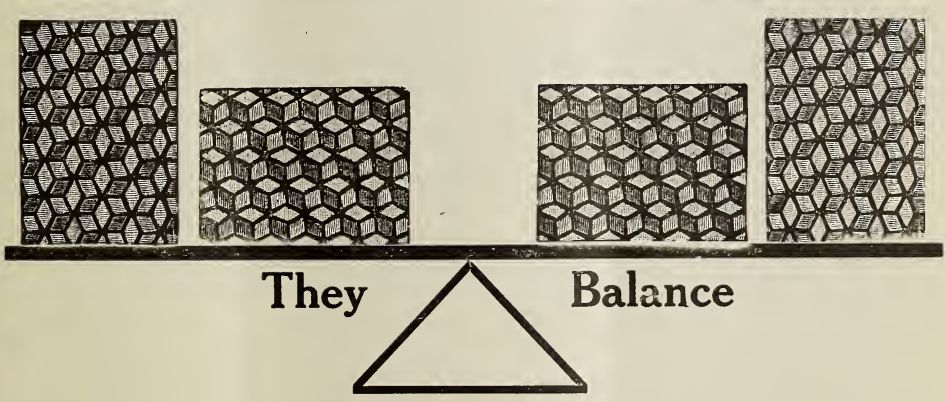
Secure a catalog at once.

BEES and QUEENS.—Your orders will be attended to.

The A. I. Root Company

H. G. ACKLIN, MANAGER

1024 Mississippi Street, St. Paul, Minn.



Every inch of our foundation is equal to every other inch. Why not secure your foundation now for next season? On all orders for December there is a discount of 4 per cent.

THE A. I. ROOT COMPANY, Syracuse, N. Y.

A Page with Our Readers and Advertisers.

"A SQUARE DEAL"

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns, and any such swindler will be publicly exposed. We protect subscribers against rogues, but we do not guarantee to adjust trifling differences between subscribers and honest responsible advertisers. Neither will we be responsible for the debts of honest bankrupts sanctioned by the courts. Notice of the complaint must be sent to us within one month of the time of the transaction, and you must have mentioned GLEANINGS IN BEE CULTURE when writing the advertiser.

READ IT AGAIN

The above guarantee. Do you know just what it means? GLEANINGS always pursued the policy of accepting only the very best and most reliable advertisements, and has turned away many thousands of dollars' worth of business because it did not come quite up to its standard. Now we go a step further; and when we make an error in judgment, and our subscriber suffers, we will make good if conditions named above are filled. Doesn't this give you renewed confidence in the advertisements that appear in this number? Why not sit down right now and write to those advertisers who interest you, and buy their goods if you can?

A VALUABLE BOOK FOR FARMERS AND POULTRYMEN FREE.

A 48-page book called "Practical Farm Buildings" has just been published by F. W. Bird & Son, East Walpole, Mass. It is full of valuable plans and specifications for all kinds of farm and poultry buildings, and every one of our readers shouid take advantage of the exceptional offer they are making to send it to any one free who sends four cents in stamps to pay postage. The book would ordinarily sell for $1.00, and it is worth every cent of it.

The first few pages describe the best location, shape, etc., for poultry-buildings, and a dozen or more pages are given to plans and specifications of the latest and most practical types of poultry and colony houses. Twenty pages are given to dairy farms, stables, hog-houses, sheep-sheds, and other buildings on the farm.

It is one of the best pieces of advertising matter put out, and only half a dozen pages in the rear of the book are reserved for the story about paroid and Neponset roofings. On these pages may be found cuts of the Plant Industry Building at Washington; colony and chicken-houses on the farm of Prof. C. M. Cowell, of the Maine Experiment Station, at Orono, Maine; the largest stock-farm in Minnesota; buildings on the largest duck-farm in the world; birdseye view of W. Barry Owen's plant at Vineyard Haven, Mass.; sheds of D. J. Lambert, Apponaug, R. I.; and many other buildings owned by leading poultrymen.

Our readers should send for this book at once, because the edition is limited, and it will also pay you to get get samples of paroid and Neponset if you do not know about the kind of work they will do.

MISSING NUMBERS.

Mr. Root:—Please send me GLEANINGS for Aug. 15, which I did not get. It is overdue by two weeks. It must have got lost, and I must have every number of that paper, for there are too many good things in it to be lost. ADOLPH SUKSDORF.

Spangle, Wash., Sept. 1.

With the increasing circulation of GLEANINGS, and consequent new help employed in this department, it happens that papers will occasionally be sent wrong. Changes in addresses, and new rural routes, also contribute to the number of missing copies. We are glad to replace on request any that may be lost from any cause. By the first of the year we hope to be in our new office and publishing house, and have our subscription work in the best of shape. In the meantime please bear with us and call our attention to any mistakes.

USERS OF DISC HARROWS, TAKE NOTICE.

One of our big advertisers, the American Harrow Company, of Detroit, Michigan, is using our columns earlier this season than ever with announcements advising our readers who wish to be sure of having a disc harrow to use at the season of the year they need it; to place their orders earlier, because they can not guarantee to fill all orders in their rush season.

This company has had a remarkable sale on their tongueless disc harrows, and last spring their books showed that they had to return 1463 orders for these implements that it was impossible for them to fill on on account of their factory not being abte to turn out enough harrows to go round.

This phenomenal sale was brought about on account of the merit of their patented tongueless disc harrow, which has many points of advantage over the old-style disc harrows so generally used.

We can easily understand the points of superiority of the tongueless disc harrows over any disc having a tongue. By doing away with a tongue, and using a forward truck, both horses pull alike at all times, either on straight-away pulls or short turns—the truck doing away with all side thrash and neck weight, which has "bunged up" so many horses just at the season of the year when they are most needed.

To any of our readers who are not familiar with the Detroit tongueless disc harrow, we advise that they write to the American Harrow Company for their catalog and other printed matter; and if they decide to buy one of these harrows, we see a good reason why they should place their order early to be sure of getting their implement just when they need it.

A postal card addressed to the American Harrow Company, Detroit, Michigan, will bring you full information.

ADVERTISING - RATES

Twenty cents per agate line flat.

Classified columns—bona-fide exchange or want ads.— 20c a line.

Discount for cash in advance, 5%; if paid in 10 days, 2%.

No objectionable advertising accepted.

Forms close 10th and 25th of each month.

Guaranteed circulation per issue, 30,000.

GLEANINGS IN BEE CULTURE
MEDINA, OHIO



A Bee-keepers' SOUVENIR POSTAL CARD

(IN FOUR COLORS)

Sent Free to New Subscribers

— TO THE —

Weekly American Bee Journal

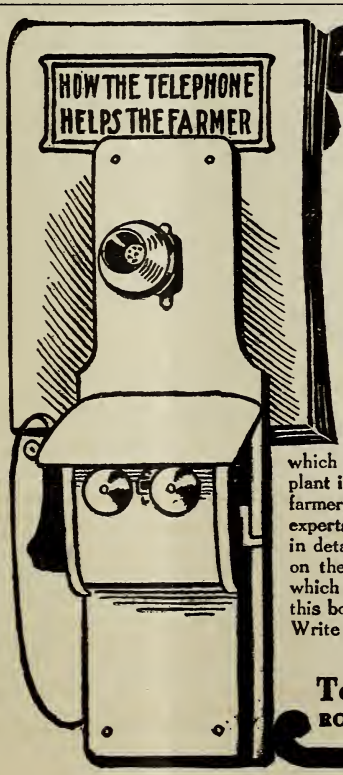
which is better than ever these days. Every reader of GLEANINGS should have it.

(Both Gleanings and the Weekly American Bee Journal, one year, for only $1.60)

PRICES, postpaid: 1 card, 5 cents; 3 for 10 cents (stamps or silver); 10 for 25 cents. There is a blank space on the card about 2x2½ inches in size for writing.

Or we will send to a *new* subscriber 10 of these Souvenir Postal Cards and the *Weekly* American Bee Journal from the time the order is received to the end of 1907, for only $1.00. This is a great chance to get some of these Postal Cards and also the only weekly bee-paper in America. Or a "trial trip" of 3 months and 2 souvenir cards for 20 cents. Sample of the Bee Journal FREE on request. Address

334 Dearborn St. GEORGE W. YORK & CO. Chicago, Ill.



You Want This Free Book

Of course you need a telephone. You need it for business, for the family, in sickness, in case of fire, or in danger of any kind. The question is—how can you get one on your farm? This little book which we send free the same day we get your request answers the question perfectly and tells you how to get the greatest convenience of the twentieth century so easily and cheaply that it becomes a positive saving and a money-maker, instead of an expense. It tells all about

Stromberg-Carlson Telephones

which are made in the largest independent telephone plant in the world. These are the best instruments for farmers' lines, because they have been constructed by experts for this particular purpose. They are described in detail in the booklet, together with full information on the organization of farmers' lines, the manner in which they are built, cost of material, etc. You want this book, F36 "How the Telephone Helps the Farmer." Write for it today.

Stromberg-Carlson Telephone Mfg. Company

ROCHESTER, N. Y. CHICAGO, ILL.

GLEANINGS PLANS FOR 1907.

We do not think it a good practice to outline our plans in advance, for often circumstances arise which hinder carrying them out exactly as we have planned. Nevertheless we want to bring to the attention of our readers in a general way some things relative to GLEANINGS for the coming year.

Advertising.

Beginning with the present issue we call your attention to the offer made on page 1546, under the heading "A Square Deal." We have always taken extreme care to admit none but reliable advertisers in our paper, and we know this has been appreciated by our readers. Going to the expense we do to see that none but reliable parties are found in our advertising columns, we want to ask our readers to mention GLEANINGS whenever writing, and to patronize our advertisers whenever it is possible to do so. Just to-day a prominent advertiser who has used GLEANINGS in connection with a number of other papers, both magazines and agricultural papers, remarked that, all things considered, LEANINGS IN BEE CULTURE is undoubtedly better than any other paper he uses.

New Equipment.

Mention has already been made of the new facilities we have for printing this number being printed entirely in our new press-room, and largely on our new press. With these increased facilities it naturally follows that we expect to make GLEANINGS very much better typographically than ever before; and if you have been pleased with GLEANINGS in the past in this respect, we are sure you will be in the year to come.

Earlier Mailing.

It has been an annoyance to some subscribers, when they have waited until the usual time for GLEANINGS, not to receive it, and to have to send a postal-card request for a certain issue. These late mailings have been occasioned by the overcrowding of our old rooms, and we hope that this number is the last one that will come out so late. At the same time, it has been rather pleasing to us to know that GLEANINGS is of so much value that it is missed when it fails to reach a subscriber promptly.

The same applies to missing numbers. We can not, of course, be sure that every number mailed will reach the party addressed, and yet we frequently have a card from a subscriber saying that he had not missed a number in many years. We are always glad to supply missing numbers if the stock has not been exhausted when the request reaches us.

Sample Copies.

During the past year many subscribers have given us the names of one or two of their friends to whom they wished sample copies sent, many times asking for a certain issue containing an article in which their friends would be interested. We are always glad to send such samples on request if the remaining stock is sufficient. Of many numbers through the early part of the season we are no longer able to supply samples, as the demand was unusual for these after the regular numbers were sent out. When you want sample copies sent to any of your friends, do not hesitate to give us their names. We send any reasonable number without charge.

Circulation.

We think it will be a matter of interest, to many of our older readers especially, to know that the average circulation for the past year has been a little over 30,000 per issue. The actual number on the mailing list now is 26,428. The remaining numbers are used for sample-copy requests, distribution at fairs, bee and poultry shows, bound volumes, etc. It has been only by the coöperation of our subscribers that we have been able to increase the circulation so much during the last few years, and we appreciate very much the part that our subscribers have had in this work.

Premium Offers.

Very many times a subscriber desires to send in the name of a bee-keeping friend for a six months' or a yearly subscription when sending in his own. To those who are interested in rates for this purpose, we refer to our special offers on page 1551.

Clubbing Offers.

It is very much the fashion nowadays to send in orders for all the papers desired by the family to one publisher, securing thereby some of the best bargains. In this issue you will find our GLEANINGS clubbing offers on page 1552. If you do not see just what you want on this page, you may make up your own clubs from the list on page 1553. If not interested in either of these, perhaps the premium offers on page 1551 will appeal to you.

Bound Volumes.

At this season of the year many are making inquiry with reference to the price of a bound volume of GLEANINGS. We furnish complete bound volumes for 1906 at $1.50 each, postage 50 cts. If you return complete 1906 volumes to this office, we will furnish you a bound volume in exchange for 50 cts., postage 50 cts. extra. A sheet giving prices of former volumes will be furnished on application.

Illustrations.

During the past season, and earlier, we have secured a large number of very interesting photographs relating to some phase of bee culture from all parts of this and other countries; and, while a large number of these have been shown during the past year, we have at this time many more which will appear during the coming year, in many cases with descriptive articles, so that GLEANINGS will be fully illustrated as usual.

Photo Contests.

The interest in these has been such that we are warranted in announcing a contest for 1907, which will be found in the January 1st issue. This will probably be divided into several classes, similar to the ones announced during the past year.

Contributors.

In addition to the regular department editors, whose names are well known, and are found on page 1546, we have a large number of well-known correspondents who will send in contributions from time to time. Among these we mention Anna Botsford Comstock, Dr. Edward F. Bigelow, Allen Latham, E. W. Alexander, E. F. Atwater, J. E. Chambers, M. A. Gill, C. A. Hatch, W. K. Morrison, Dr. D. E. Lyon, Sam'l Simmins, L. Stachelhausen, E. D. Townsend, Wm. M Whitney, and a host of others, many of them as well known as the foregoing writers.

Honey Market.

Plans are under way for materially changing the form in which quotations of the various honey markets appear in GLEANINGS, and by which we hope to render our subscribers a still more valuable service. We shall appreciate it very much if we can have brief letters from our subscribers, telling just what they would like to see in the way of reports on the honey market.

Reports of the Honey Crop.

Criticism was recently noticed of the honey-crop reports found in GLEANINGS the past year, which is mentioned editorially in this issue. We believe that, in spite of some omissions or inaccuracies, no other paper of any class has ever given such reliable reports of the actual crop in this country as has GLEANINGS, and yet we expect the coming season to be able to report the crop still earlier and better than ever before, and we ask the coöperation of our subscribers in this also. Suggestions early in the season as to the form in which reports should be given will be appreciated, whether it is desired to have reports from a large number of individuals in same issue of the paper or whether a general survey of the crop conditions by States would be sufficient.

Service Department.

It frequently happens that, with our correspondents in various large cities of the United States, we can render valuable service to some subscriber in a distant part of the country. For instance, a few months ago a subscriber made a shipment of honey to a well-known buyer in one of the large cities of the East. On arrival the car was refused, having been damaged in transit. The shipper was at least two thousand miles away from the car, and charges would be accumulating rapidly on the same; besides, the honey was leaking badly and needed attention. He wired us, asking us to look after his interests. We were able to do this without difficulty, and the following is a report we received from him a few days later: "We wish to assure you that we appreciate fully your prompt action in this matter. Somehow, we were glad you were near at hand when we were advised of the wrecked condition of the car of honey. We felt that there was some one near that we could depend upon, and we are not disappointed. That was the best of it all. Thank you again."

When we can be of service to you in any way in any part of the country where we have offices or facilities for helping you, we shall be glad to have you call on us.

Gleanings in Bee Culture
PREMIUM OFFERS

CONDITIONS

The following offers are self-explanatory in most cases. The purpose of these is to induce both present and prospective subscribers to interest others in GLEANINGS IN BEE CULTURE. A few general rules may be of service in using these offers.

1. Trial subscriptions are offered only for the uniform time of six months, and must be in each case a new name—that is, the name of some one who has not been a subscriber to GLEANINGS during the preceding year.

2. Any one may send in subscription orders, claiming any of the following premiums, whether a subscriber or not. If he desires to send his own subscription, it will count the same as the name of any other subscriber he may send.

3. Please note that our premiums are divided into three classes, as follows: For six months' trial (new) subscriptions; for yearly subscriptions (new); for yearly subscriptions (renewal).

4. Premiums should be claimed when the orders are sent, if convenient. They may be claimed later on if mention is made, when sending the subscription, that it will be claimed later.

5. These premium offers supersede all former offers, which are canceled at this date.

For New Six Months' Trial Subscriptions.

ANY one of the following premiums may be selected for each trial subscription sent us with 25 cts. As many premiums may be claimed as you send subscriptions. If a subscription to one of the papers is selected, it will apply to either new or renewal subscriptions to that paper.

Premium A. For one trial subscriber we will advance your own subscription three months.

Premium B. One year's subscription to Farm News with Prof. Holden's Corn Book, postpaid.

Premium C. One year's subscription to Greene's Fruit Grower.

Premium D. One year's subscription to Poultry Success.

Premium E. Two years' subscription to the Apple Specialist.

Premium F. Two years' subscription to the Farm Journal, Philadelphia.

Premium G. Any one of the Swarthmore books or Modern Queen-rearing, by Phillips, postpaid.

Premium H. One copy Reliable Poultry Remedies, 84 pages 6 in. x 9 in., publisher's price 25c.

Premium I. One copy Tomato Culture, 150 pages.

Premium J. One copy Tile Drainage, by W. I. Chamberlain.

Premium K. One copy Winter Care of Horses and Cattle, by T. B. Terry.

Premium L. One Perfect pamphlet preserver for GLEANINGS. Postage, 7 cts. extra.

For New Yearly Subscriptions.

ANY one of the following premiums may be selected for each new yearly subscription sent us with $1. As many premiums may be claimed as you send subscriptions. If a subscription to one of the papers is selected, it will apply to either new or renewal subscriptions to that paper.

Premium 1. For one new yearly subscription we will send GLEANINGS one year to your own address; or one Style D GLEANINGS binder, postage 15 cts. extra.

Premium 2. One year's subscription to the Strawberry; publisher's price, $1.00.

Premium 3. One year's subscription to Photographic Times; publisher's price, $1.00.

Premium 4. One A B C of Bee Culture, cloth bound, postage 20 cts. extra.

Premium 5. One How to Keep Bees, cloth bound, by Anna B. Comstock, postage 10 cts. extra.

Premium 6. One Doolittle's Queen-rearing, cloth bound, postage 10 cts.

Premium 7. One Langstroth on the Honey-bee, revised, postage 15 cts.

Premium 8. One Forty Years Among the Bees, by Dr. C. C. Miller, postage 10 cts.

Premium 9. One Standard Root Smoker, postage 25 cts.

Premium 10. One F. F. Fountain Pen No. 2, postpaid.

Premium 11. One untested Italian queen, Root strain, golden or leather color, sent at our convenience in May, June, or July.

Premium 12. Four Swarthmore books, postpaid.

For Renewal Yearly Subscriptions.

ANY one of the following premiums may be selected for each renewal yearly subscription sent us with $1. As many premiums may be claimed as you send subscriptions. If a subscription to one of the papers is selected, it will apply to either new or renewal subscriptions to that paper.

Premium N. One copy of any of the following books, the publisher's price of which is 50 cts.: Poultry House and Fixtures; Artifical Incubating and Brooding; The Chick Book; Eggs and Egg Farming; Plymouth Rocks, Leghorns, Asiatics; Ducks and Geese. Turkeys, Bantam Fowls.

Premium O. Either of the following books, described in our book catalog: The A B C of Strawberry Culture, The ABC of Potato Culture.

Premium P. One untested Italian queen, either golden or leather colored, in June or July when we have a surplus.

Premium R. For a renewal yearly subscription we will advance your own subscription six months; or send you a Style C GLEANINGS binder, postage 10 cts. extra.

Premium S. One Junior Root Smoker; postage 20 cts. extra.

Premium T. One pair cloth beegloves, with or without fingers, postage 7 cts.

Premium U. One Porter honey-house escape, postpaid.

Premium V. One year's subscription to the American Poultry Journal.

Premium W. For *three* renewal or two new yearly subscriptions to GLEANINGS at $1.00, we will send, postpaid, one No. 602 bee-keepers' pocket tool-kit. See page 972, July 15th GLEANINGS.

Send all subscriptions to

The A. I. ROOT COMPANY MEDINA, OHIO

Gleanings in Bee Culture Clubbing Offers

ALL OF THE FOLLOWING OFFERS INCLUDE *GLEANINGS* ONE YEAR.

			Our Price with GLEANINGS
Delineator	1 yr.	$1 00	
McClure's Magazine	"	1 00	$3 75
World's Work	"	3 00	
Review of Reviews	1 yr.	$3 00	
Success Magazine	"	1 00	$3 60
Woman's Home Companion	"	1 00	
Or any class A magazine.			
Cosmopolitan or Success	1 yr.	$1 00	
Yachting, or any class B	"	3 00	$4 00
Field and Stream	"	4 00	
Or any class 4 magazine.			
American Boy	1 yr.	$1 00	
Cassell's Little Folks	"	1 50	$3 30
Metropolitan Magazine	"	1 00	
Any class A may be substituted.			
Recreation or Appleton's	1 yr.	$1 50	
Metropolitan Magazine	"	1 50	
Review of Reviews	"	3 00	$4 65
Woman's Home Companion	"	1 00	
Or any class A magazine.			
Scribner's Magazine	1 yr.	$3 00	
Suburban Life	"	1 50	$6 65
House and Garden	"	3 00	
Any class 8 may be substituted.			
Independent	1 yr.	$2 00	
Recreation or Appleton's	"	1 50	$4 70
Outing or Reader Magazine	"	3 00	
Or any class B magazine.			
Lippincott's	1 yr.	$2 50	
Cassell's or Recreation	"	1 50	$4 15
Cosmopolitan	"	1 00	
Or any one of class A.			
Ainslee's Magazine	1 yr.	$1 80	
Metropolitan Magazine	"	1 80	$4 50
Outing Magazine	"	3 00	
Or any Class B Magazine.			
Outing Magazine	1 yr.	$3 00	
Metropolitan Magazine	"	1 80	$6 40
Harper's or Leslie's Weekly	"	5 00	
Or Scribner's or Kermaic Studio.			
American Boy	1 yr.	$1 00	
Pearson's Magazine	"	1 50	$3 30
Pictorial Review	"	1 00	
Or any class A magazine.			
American Inventor	1 yr.	$1 00	
Scientific American	"	3 00	$4 80
Automobile Magazine	"	2 00	
Or any class A magazine.			
World To-day	1 yr.	$1 50	
Etude (for music lovers)	"	1 50	$3 65
Recreation or Pearson's	"	1 50	
Or any class 4 magazine.			
Century Magazine	1 yr.	$4 00	
Current Literature	"	3 00	$7 65
Cassell's or Appleton's	"	1 50	
Or any class 4 magazine.			
Putnam's Magazine	1 yr.	$3 00	
Country Life in America	"	4 00	$7 15
Good Housekeeping	"	1 00	
Or any class A magazine.			
Children's Magazine	1 yr.	$1 00	
Etude (for music lovers)	"	1 50	$3 65
Appleton's or Pearson's	"	1 50	
Or any class 4 magazine.			
Harper's Magazine or Weekly	1 yr.	$4 00	
Reader or Outing	"	3 00	$7 40
Lippincott's Magazine	"	2 50	
Or any class 6 magazine.			

			Our Price with GLEANINGS
Outing Magazine	1 yr.	$3 00	
World To-day	"	1 00	$4 15
Ainslee's Magazine	"	1 80	
Home Needlework Magazine	1 yr.	$0 75	
Pictorial Review	"	1 00	$2 65
Modern Priscilla	"	50	
Or any class C magazine.			
Good Housekeeping	1 yr.	$1 00	
Cassell's or Recreation	"	1 50	$3 00
Ladies' World	"	50	
Or any class 2 magazine.			
Independent	1 yr.	$2 00	
Musician	"	1 50	$4 70
Outing magazine	"	3 00	
Or any class B magazine.			
Outdoor News (illustrated)	1 yr.	$2 00	
Burr McIntosh	"	3 00	$5 00
Woman's Home Companion	"	1 00	
Or any class A magazine.			
Little Folks (new subscriber)	1 yr.	$1 00	
Woman's Home Companion	"	1 00	$2 65
Modern Priscilla	"	50	
Or any class C magazine.			
World To-day	1 yr.	$1 50	
Recreation or Pearson's	"	1 50	$3 30
Woman's Home Companion	"	1 00	
Or any magazine in class A.			
Musician or Etude	1 yr.	$1 50	
Home Magazine	"	1 00	$3 00
McCall's Magazine	"	50	
Or Housekeeper or any class C.			
The Reader or any class B	1 yr.	$3 00	
Keith's or any class 4	"	1.50	$4 00
Success Magazine	"	1 00	
Or any class A magazine.			
What To Eat	1 yr.	$1 00	
Harper's Bazar	"	1 00	$2 95
Pictorial Review	"	1 00	
Or any class A magazine.			
American Boy	1 yr.	$1 00	
National Magazine	"	1 00	$3 40
Cassell's Little Folks	"	1 50	
Or any class B magazine.			
Cassell's or Quiver	1 yr.	$1 50	
American Magazine	"	1 00	$3 65
Broadway Magazine	"	1 50	
Or any class 4 magazine.			
Children's Magazine	1 yr.	$1 00	
Home Needlework Magazine	"	75	$2 30
Or any class A magazine.			
Burr-McIntosh	1 yr.	$3 00	
Scribner's Magazine	"	3 00	$6 65
Metropolitan Magazine	"	1 80	
Or any class E magazine.			
Suburban Life	1 yr.	$1 50	
McClure's	"	1 00	
Delineator	"	1 00	$4 30
World's Work	"	3 00	
Suburban Life	1 yr.	$1 50	
Woman's Home Companion	"	1 00	$3 65
Review of Reviews	"	3 00	
Suburban Life	1 yr.	$1 50	
World To-day	"	1 50	$2 95
Cosmopolitan	"	1 00	
Suburban Life	1 yr.	$1 50	
Woman's Home Companion	"	1 00	$2 30
Cosmopolitan, American Magazine. Harper's Bazar, or Success may be substituted.			

ALL OF THE ABOVE OFFERS INCLUDE *GLEANINGS* ONE YEAR.

SEND ALL ORDERS TO THE A. I. ROOT CO., MEDINA, O.

Make Up Your Own
Subscription - Combinations - for - 1907

For the Convenience of These who do not Find Such a Club as They Want on Page 1552.

Class A

American Agriculturist $1 00
American Boy 1 00
American Inventor 1 00
American Magazine 1 00
American Primary Teacher.... 1 00
Automobile Magazine 2 00
Baby 1 00
Boston Cooking School 1 00
Browning's Indust'l Magazine. 1 00
Business Man's Magazine 1 00
Camera Craft 1 00
Children's Magazine 1 00
Cosmopolitan 1 00
Cycle and Auto Trade Journal . 1 00
Educational Gazette 1 00
Engineering Review 1 00
Farming (Doubleday-Page).... 1 00
Garden Magazine (Dou.-Page). 1 00
Gleanings in Bee Culture..... 1 00
Good Health 1 00
Good Housekeeping 1 00
Health 1 00
Health Culture 1 00
Hints 1 00
Home Magazine 1 00
Home Needlework (bi-m)..... 75
Interior Decoration 1 00
Inventor 1 00
Kindergarten Magazine 1 00
Kindergarten Review 1 00
Little Folks, Salem 1 00
Metropolitan 1 50
National Magazine 1 00
Ohio Farmer 75
Orange Judd Farmer 1 00
Out Doors 1 00
Pacific Monthly 1 00
Philistine 1 00
Photo American 1 00
Photo Beacon 1 00
Photo Era 1 50
Photographic Times 1 00
Physical Culture 1 00
Pictorial Review (with pattern) 1 00
Pilgrim 1 00
Popular Educator 1 00
Primary Plans 1 00
Primary Education 1 00
School Arts Book 1 00
Strawberry 1 00
Style and Amer. Dressmaker... 1 00
Suburban Life 1 50
Success 1 00
Suggestion 1 00
Sunset Magazine 1 00
After Jan. 1 add 35 cts.
Table Talk 1 00
Technical World 1 00
Teacher's World 1 00
Times Magazine 1 50
Travel Magazine 1 00
Waverly 1 00
What To Eat 1 00
Woman's Home Companion.... 1 00
World's Review 1 00
World To-day 1 50
Young's Magazine 1 00
Youth 1 00

Class B

Amer. Monthly Rev. of Reviews. 3 00
Automobile 2 00
Independent 2 00
Motor Way 2 00
Out Door News 2 00
Outing 3 00
Printer's Ink 2 00
Reader Magazine 3 00
Review of Reviews 3 00
Short Stories 1 00
Trained Nurse 2 80
Yachting 3 00

Any two Class A $1 65
Any three Class A 2 30
Any four Class A 2 95
Any one Class A, one Class C... 1 35
Any one Class A, two Class C .. 1 70
Any two Class A, one Class C .. 2 00
Any two Class A, two Class C .. 2 35
Any two Class A, one Class B .. 3 00
Any one Class A, one Class 3... 1 75
Any one Class A, two Class 3... 2 50
Any two Class A, one Class 3... 2 40
Any two Class A, two Class 3... 3 15
Any one Class A, one Class 4... 2 00
Any one Class A, two Class 4... 3 00
Any two Class A, one Class 4... 2 65
Any two Class A, two Class 4... 3 65
Any one Class A, one Class 5... 2 25
Any one Class A, two Class 5... 3 50
Any two Class A, one Class 5... 2 90
Any two Class A, two Class 5... 4 15
Any two Class A, one Class 7.. 3 40
Any two Class A, two Class 7... 5 15
Any one Class A, one Class 8... 3 00
Any two Class A. one Class 8 .. 3 65
Any two Class A, two Class 8... 5 65
Any two Class 3 ..... 1 85
Any three Class 3 ..... 2 60
Any one Class 3, one Class C ... 1 45
Any one Class 3, one Class A.. 1 75
Any one Class 3, one Class 4 .. 2 10
Any one Class 3, one Class 5 .. 2 35
Any two Class 3, one Class B... 3 20
Any two Class 4 ..... 2 35
Any three Class 4 ..... 3 35
Any four Class 4 ..... 4 35
Any one Class 4, one Class C.... 1 70
Any one Class 4, one Class A .. 2 00
Any one Class 4, one Class 5... 2 60
Any two Class 4, one Class B... 3 70
Any two Class 5 ..... 2 85
Any one Class 5, one Class C ... 1 95
Any one Class 5, one Class A... 2 25
Any one Class 5, one Class 3.... 2 35
Any one Class 5, one Class 4 ... 2 60
Any one Class 5, one Class B... 3 00
Any two Class B 3 05
Any three Class B 4 40
Any four Class B 5 75
Any one Class B, two Class A .. 3 00
Any one Class B, two Class 3 .. 3 20
Any one Class B, two class 4... 3 70
Any one Class, B one Class 5... 3 00
Any one Class B, one Class 7... 3 45
Any one Class B, one Class 8.. 3 70
Any two Class B, one Class C .. 3 40
Any two Class B, two Class C.. 3 75
Any two Class B, one Class A.. 3 70
Any two Class B, two Class A.. 4 35
Any two Class B, one Class 3... 3 80
Any two Class B, two Class 4 .. 5 05
Any two Class B, one Class 4 .. 4 05
Any two Class B, two Class 4... 5 05
Any two Class B, one Class 5 .. 4 30
Any two Class B, two Class 5... 5 55
Any two Class B, one Class 7... 4 80
Any two Class B, two Class 7 .. 6 55
Any two Class B, one Class 8... 5 05
Any two Class B, two Class 8... 7 05
Any two Class 7 ..... 3 85
Any three Class 7 ..... 5 60
Any two Class 8 ..... 4 35
Any three Class 8 ..... 6 35

Any one A ..... } $3.35
Any one B ..... }
Any one 4 ..... }

Class C

American Poultry Journal.... $0 50
Housekeeper 60
Ladies' World 50
McCall's and Pattern 50
Modern Women 50
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GLEANINGS IN BEE CULTURE

A Journal Devoted to Bees, Honey, and Home Interests
Illustrated : Semi-monthly : One Dollar per Year
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"Fewer papers were read this year than last" at the National, p. 1486. Sensible. The drift is steadily toward giving the question-box the right of way at bee conventions. I am just home from the Chicago Northwestern, where there wasn't a paper, and their conventions are tip-top.

To quiet bees on a journey, F. Meier, in *Schweiz. Bienenzeitung*, advises the use of water—much water. If they crowd the ventilating openings, don't drive them back with smoke. Spray them strongly with water. That drives them back so the fresh air can enter; it cools them off, and it gives them drink. [This is good advice. I have tested it myself.—Ed.]

Texas claims first place as a honey-producing State. But Louis H. Scholl reports in *American Bee Journal* "that many carloads of mostly extracted honey are shipped in from Colorado and other western places." Looks strange that the greatest producer can not produce enough honey for its own consumption; or is it that Texans eat so much more honey than other people?

Editor Hill questioned my saying that Cuba was not going to be annexed, and I relied upon Uncle Sam's promise it shouldn't be annexed. Do you know what that man Hill has done? He has gone and written a strong article in the Havana *Post*, showing the Cubans that, if they are sane, they will want to be annexed. Now if we are flooded with Cuban honey it will be Harry's fault.

"In regard to our buckwheat extracted honey. these dealers preferred it at the same price to clover," page 1496. Quotations, pp. 1474 and 1475, make buckwheat the lowest. What is the explanation? [The quotations on buckwheat vary considerably for the different markets, and even the same dealer in the same market often has a larger outlet for that honey, and offers a better price.—Ed.]

Replying to A. I. Root's question, p. 1515, I am sure it would suit the bees well to have an opening so that they could be able to alight directly on the combs on entering the hive, and I should have little fear of robbers; but it might be troublesome to arrange it with the frames. I have had colonies with a two-inch space under the bottom-bars, and it was a pretty sight to see the bees sail in and alight directly on the bottom-bars or cluster without ever touching the bottom-board. But unless this space were at least partly closed during the harvest the bees would build combs below the bottom-bars.

Authorities have held that a queen does her best work in her second year, and not until lately, I think, has the statement appeared that her first year is her best. Is there any ground for a change of belief? The matter is important; for if it be true that the first year's work is the best, some will think it advisable to allow no queen to continue in her second year, necessitating an annual slaughter of queens, since queens are not generally superseded until they are much more than a year old. In my own experience I have seen no evidence that queens generally fall off in the second year. Indeed, I have had many queens that did excellent work in their third year. I believe this is one of the cases in which the traditions of the fathers are correct; and if any one has a desire to start a new tradition he should have it well supported by facts and figures. [I was not aware that any one held that a queen did her best work in her second year.

I do know this, that quite a number of good bee-keepers requeen every two years, and some say they prefer a queen one year old, not because her bees will do any better work in the supers, but because they will be less inclined to swarm.—ED.]

GRANT STANLEY writes that, for four years, he has been using with satisfaction a hive-stand made like mine, only he uses 2×4 stuff "for the bottom, standing them on edge. This makes a stand 5 inches high." If he means he lays a floor on the 2×4's for the bottom-board to stand on, I don't like it. If the hive stands directly on the edges of the 2×4's it's better than mine. I am thoroughly convinced that it is a bad thing for a bottom-board to stand flat upon a considerable surface. The water gets between the two surfaces, and stays there very much as in a sponge, to rot the bottom-board. A good thing might be to have the hive rest upon two rather sharp edges covered with tin to eliminate the sponge business. Or the two edges might be of cement.

"IS IT TRUE that these off seasons of clover are coming with more painful frequency than formerly?" p. 1484. I didn't say they were coming with *more* painful frequency. I do not know that they are any more frequent now than they were 45 years ago. You say, Mr. Editor, "We are almost forced to conclude that clover per heads yields as much nectar as ever." I quite agree with you; I am not almost but altogether forced to that conclusion. "Is it not rather true that there is less of clover owing to intensive agriculture than 20 or 30 years ago?" It is not true in this locality: clover is as plentiful or more so than ever. There are no more bees than formerly. Your talk about changes has no bearing on the question. All through my bee-keeping life seasons have occurred with painful frequency when the clover blooms and blooms and blooms, all right in appearance, but the bees just don't get any honey; and I wish some one could tell us what the trouble is. [It is true that you do not claim in that particular Straw that those off seasons of clover were coming more frequently; but this Straw, taken in connection with some of your others, and some conversation I had with you at one time when we discussed the question why clover did not yield as it used to do in old times, led me to take up the question in a general way—especially so as not a few have claimed that clover did not yield now as it did formerly. If I misunderstood you in your position, then I stand corrected.—ED.]

FIGURES in that New Zealand article, page 1488, seem to need some doctoring. One statement is that 100,000 colonies in a poor season would produce over 20,000 tons of honey, returning $300,000. Another statement is that 8 tons from 220 colonies was a cautious estimate for a normal season, and that $200 a ton profit was reckoned on. By the first statement the average per colony is 400 lbs. in a *poor* season; by the second statement it is 73 lbs. for a *normal* season. By the first statement honey is ¾ cent a pound; by the second statement, 10 cents. All this doubtless refers to extracted honey, and ¾ cent seems very low and 10 cents very high. But I don't know how to doctor it. [Yes, there is evidently a mistake here somewhere, for the two sets of figures are not consistent. Since the writer of the article is, for the most part, telling what Mr. Hopkins has said, it is quite likely that, somewhere or other, he has made an error. For instance, when he speaks of the 20,000 tons of honey from 100,000 colonies, it is quite probable that he meant 2000 tons (English tons). The amount per colony would then be about 45 pounds, and the price per pound over 6½ cents. Without doubt he means that the $300,000 is the net gain after all expenses are paid. This would make the selling price of honey very high; but Mr. W. K. Morrison says that the price of New Zealand extracted honey *is* high, and that it is not unusual for it to bring 10 or even 12 cents a pound. The second set of figures refers to a specific case, and gives as a result 81 pounds per colony at about 8 cents a pound, taking the English ton of 2240 lbs. It looks as though this 8 cents were the net price after the expenses for selling had been deducted.—ED.]

WHERE DID you get your information, Mr. Editor, that comb honey sells in England for 48 cts., p. 1483? The highest I can find in *British Bee Journal* is only half that. [I obtained my information from Mr. W. K. Morrison, who has made a study of honey markets the world over, for the statement in question. Referring to the *British Bee Journal*, page 166, April 26, I find this statment: "Scottish bee-keepers state that last season they had no difficulty in obtaining 1 shilling 4 pence (32 cts.) to 1 shilling 6 pence (36 cts.) per lb. for Scotch heather honey, and 7 to 8 pence (14 to 16 cts.) per lb. for clover honey." The preceding quotation was from a letter from Shaw Bro., commission men of London, and referred to extracted honey. Then, again, on page 202 of the same journal for May 24, we find this: "Bee-keepers in Scotland can easily obtain from 1 shilling 4 pence (32 cts.) to 1 shilling 10 pence (44 cts.) per lb." This also referred to extracted and to what the bee-keeper *obtained*, and not what the honey was selling for in London or other principal markets. After it gets there it would retail for 48 cts. at least. If it had been comb honey the price would have been even higher.

You will note that there is a difference in price between the ordinary clover and heather honey, for the former seems to be very highly prized in London, if the quotations mean any thing.

In regard to clover selling at a lower price, Mr. Morrison says the English clover is apt to be mixed with other less desirable flavors, and hence it is lower quality.

Again, on page 194, May 17, *British Bee Journal*, I find this: "A bulky barrelful of the past season's Scottish heather honey would have been worth more than a barrelful of good Scotch whisky. Although honey

production is with me mainly a hobby, I have never at any time retailed it at less than 1 shilling 3 pence (30 cts.) per lb. During the past season I have produced barrelfuls of Scotch honey, and bottled it at 1 shilling 6 pence (36 cts.) per lb., and 1 shilling (24 cts.) per lb. wholesale; and, mark you, not heather honey, but clover honey." This is extracted also, you will note. On page 123 of the same journal Mr. D. M. MacDonald writes: "Heather honey sold readily at 1 shilling 3 pence (30 cts.) per lb., upward, and I had any number of orders which I was quite unable to fill after making extensive inquiries, although several customers offered 1 shilling 6 pence (36 cts.) per lb. Pure clover honey sold readily at 10 pence (20 cts.) per lb." On page 146 Mr. R. Steele, a supply-dealer and honey-merchant, says, "We do a big business both in buying and selling Scotch honey, and last year gave 1 shilling 4 pence (32 cts.) per lb. for heather honey in the comb, and could not meet the demand, as the supply was very limited." Note that he was buying chunk honey to sell again. You can readily see that this honey, when it got into the big markets, would retail for 48 cts. or more of our money.

You will find honey offered in the advertising columns of the *British Bee Journal* for less than these figures; but from quoted references it is plain to see that such honey is either of a job lot or is not the *best*, for that is what we were talking about. Some little time ago Prof. Cook, who was then in Germany, said that very inferior chunk honey was retailing for 25 cts. per lb.—Ed.]



By the time this journal reaches our readers we shall have our printing-plant in our new building. This moving will account for the delay in getting out this issue.

The Canadian Pacific Railway has under construction in Alberta an irrigation scheme calculated to reclaim 3,000,000 acres of land, which is equal to the total irrigated area of several States in this country. Uncle Sam is constructing several big ditches himself in the arid region, but this Canadian venture completely dwarfs our Uncle's efforts in this line. Bee-keepers will take great interest in all these enterprises, as an irrigated region is generally good for bee-keeping.

Large quantities of garbanzos, or chick peas, are grown in Sonora by irrigation, and transported via the Southern Pacific Railway and New Orleans to Cuba, Porto Rico, and Spain. As these are honey-yielding plants, why not grow these peas in this country and capture a good trade? It is true, labor is cheap in old Mexico; but mechanical labor is cheaper, and freight rates would be less. Oh, my! but lots of good things require to be introduced into this country yet, and, worst of all, many of these are excellent bee-plants and soil-improvers.

The little republic of Switzerland has 32 experiment stations for bee culture, with a force of 35 experimenters. A beautiful annual report of about 50 pages is gotten out, in which is a condensed report of the work done the previous year. Maps and diagrams are used to elucidate the text, together with beautiful half-tones of the flowers treated of in connection with the work of the bees. One experimenter has been with the government in this work for 21 years. If a country about the size of Connecticut can do work like this, what can the United States do?

Mr. Hannemann, the inventor of the queen-excluder, is still alive and contributes to the Brazilian bee paper published in Rio Grande do Sul, E. U. de Brazil. The paper is published by an old friend of Gleanings, Mr. Schenk, long resident of South America. It is not published in Portuguese, the language of that country, but in German, because the principal bee-keepers in that far-away part of the world are natives of Germany. Mr. Hannemann's method of using the excluder has never been practiced in this country to our knowledge. He united several swarms in one, and ran the same into a hive several stories high, but having a queen-excluder above the lowest story.

HIGHER PRICES ON HONEY.

Comb honey is retailing in some of the fancy stores in the cities at from 25 to 30 cents a pound, and extracted in proportion. The fact is, the practical working of the new pure-food is so near at hand that the merchant does not dare to buy adulterated or misbranded goods. Indeed, it is not safe for him to get any thing but pure food stuffs. For these he has to pay a higher price, and consequently has to sell for more. "But," you say, "it comes out of the consumer." True. But he gets more value for his honey — more bone and muscle and strength, *and fewer doctors' bills.* Paste this last in your hat.

THE POSSIBLE ADVANCE IN THE PRICE OF FOOD STUFFS.

It will take some months before the general public begins to comprehend just what the enactment of the new national pure-food law means. While prices on food stuffs may be higher, they will be of a far better quality, *and be labeled for just what they are.* No consumer can object to paying a higher price for his butter, his sugar, his molasses,

his canned goods, his cereal foods, or his honey, if you please, if he at the same time secures a proportionate increase in value. In some instances, at least, he will actually get more for his money than formerly.

THE MARKED ADVANCE IN THE PRICE OF CALIFORNIA SAGE HONEY.

A COMPARISON of the markets on California honey of a year ago in New York, and the same markets this year, shows an advance of approximately 2 cts., or nearly 33⅓ per cent. There was a short crop both years in California, but we can hardly account for the difference in price by the difference in supply. The probabilities are that the new pure-food law has scared out the would-be adulterators in New York and elsewhere, so they dare not piece out this honey with glucose, making a little go a good way.

It will be noted, also, that prices are stiffening right along the line on all grades of honey. Early this season the market was uncertain; but instead of weakening, as it usually does, the market is even stronger.

CAUCASIAN BEES.

IN the October number of *Irrigation* Mr. Frank Rauchfuss, of Colorado, sums up our present knowledge of the Caucasian bees, adding his own experience, which is not small, seeing he has owned several colonies of this race for six years. He says they are undoubtedly gentler than any other race yet discovered.

They have longer tongues than any other bee yet tried in this country.

They are quiet under manipulation.

They are not inclined to store in the brood-chamber.

They raise a great many queens when deprived of their leader.

They contract their hive-entrance in the fall with a grayish propolis.

They winter very well out of doors.

Their queens are not of uniform color. Some are grayish black, and some are rust-colored (rufous).

The queens are very prolific layers.

The drones are generally of a grayish black.

The workers are apparently smaller than Carniolans or Italians. In color they are not uniform. Some are grayish black all over, with white hairs on the abdomen. Others are rufous on the first ring of the abdomen.

Thus far they have not equaled Italians as honey-getters, but this is probably due to the negligence of the breeders in the Caucasus.

PRICE OF SAGE AND CUBAN HONEY IN THE NEW YORK MARKETS.

MR. W. K. MORRISON, after reading the article by Mr. E. W. Alexander, in our issue for Dec. 1, stating that choice California sage honey was selling at from 4½ to 5½ cents in the city of New York, felt very sure that our correspondent had been misinformed as to the facts. As he has very recently come from New York, and having spent several months in that city, making a special study of the honey situation, he feels very positive that the prices on honey are very much higher than those that were quoted to Mr. Alexander. I requested him to prepare a statement, which he has done as follows:

Mr. Alexander quotes choice California sage honey as selling for 3½ to 4½ cents F. O. B., which would make the price in New York 4½ to 5½ cents. Now, I do not hesitate to say Mr. Alexander or his informant is entirely wrong in quoting such prices. If any man can import honey from California at the present time, and land it in his warehouse for less than 7 cents per pound, he is doing wonders, for no one else is doing it. My experience in New York was quite different from Mr. Alexander's, and I was there four months this summer. When I left, comb honey was selling on Fulton St., Brooklyn, for 30 cents per Ideal section. This was in the dairy stores, where butter, eggs, and milk are sold, and extracted honey (tupelo) was 25 cents per 1-lb. bottle; In fact, my impression of the New York market was exactly the opposite of Mr. Alexander's—that is, the market for honey was good and getting better, and I think I know something about New York, having kept bees there on a roof years ago, and selling my honey for $5.00 per 24-section case, *and I could do as well* (*if not better*) *to-day.*

I took pains to find out how things stood in Brooklyn; and in all that vast city (over a million) there was not a single honey-store. Even the great department stores, most of them, did not have honey in stock (they were "going" to get it). Brooklyn is probably the best place in the whole world to sell honey, because its inhabitants are largely New York business men, the richest in the world.

As to the Cuban honey, we need not worry about it, because in England, where there is absolute free trade, honey is much dearer than it is with us. Quotations of heather honey in Scotland, in the *British Bee Journal* of a recent date, say the price is from 30 to 44 cents per lb. California sage honey brings at the very lowest 9 cents in large lots, in London, and it costs but little more to send it to London than it does to New York.

After the first of the year glucose syrup will no longer masquerade as honey, and prices ought to be considerably stiffer for all grades of honey A good deal of molasses, too, will be ousted because most of it is entirely unfit for human consumption. A good proportion of granulated sugar will also come under the scrutiny of the pure-food inspector because it contains glucose and sulphites. I am not a pessimist. Now is the time to stick out for higher prices.

We have not been able to get any thing like 4½ and 5 cents on sage honey at Medina. In fact, we have not been able to obtain any thing better than 7 cents delivered here, and we are over 600 miles nearer California than New York is. The quotations on sage honey in the New York markets are 7½ and 8 cts.

It is possibly and probably true that the honey-salesmen in New York, that Mr. Alexander approached, desired to give him the impression that they could buy mountain sage and Cuban honey at ridiculously low prices, with the view of jewing him down on his buckwheat. That is an old trick, and very often serves his purpose. But Mr. Alexander had sold his honey, so no harm was done.

A FAIR ANSWER TO A FAIR QUESTION; HONEY-CROP REPORT IN GLEANINGS.

THE following item appeared in *Irrigation*, an excellent monthly published at Denver, Col.:

I have been reading with interest the honey-crop reports which we have been receiving during the season, and especially those we have received from a cer-

tain prominent bee journal. Those reports came regularly twice a month, when they suddenly ceased at a time when the bee-keepers of the United States needed them most. If a bee journal can not give the bee-keepers the desired information at the right time, of what interest is it to them?

This is a fair question, and deserves a fair answer. In the first place, I may say that we began giving the honey-crop prospects as early as June 1 this year, asking for postal-card reports. As these came in they were summarized and placed at the disposal of our readers in subsequent issues until Aug. 15. At that time all the information that was available had been obtained, and thereafter, until about Oct. 1, we were unable to get any thing authentic about crop conditions, and consequently did not publish any thing.

In our issue for July 15 a summary was made by us after all the reports had been gathered, and after the main honey-flow from the Northern States was over, saying that "the crop of Western honey in car lots will be light. The Mississippi Valley south of the Wisconsin line and north of Missouri will have from a fourth to a third of a crop. Michigan, Ohio, and Kentucky, fair; Missouri and Nebraska, good; Eastern States, half to a full crop. There will not be much Western honey on the market except some from California." August 1, again, we stated that "there is very little to add to what has already been given, except to say there will be some shrinkage from early estimates as to the amount of honey there would be from the Eastern States." After that we were unable to get hold of any definite information that we thought would be authentic, and so we finally decided to wait until the honey began to be marketed.

During the middle of September we began to get reports again; and in our October 1st issue we stated that buyers everywhere were trying to get honey; that the crops had been short, and that "conditions now seem to show that the crop is even lighter this year than last;" further, "there is some honey in Colorado and California." This item was published a month before the quoted item in *Irrigation;* but it is possible that Mr. Francis, the writer of it, had not seen our issue for October 1st, wherein the missing information he sought was given.

There were other items in GLEANINGS, all tending to show that the crop was light, so I do not think our readers really lacked for information when we were able to give any that was considered reliable.

Possibly the writer of the item thought we held back the crop reports seeing there was going to be a scarcity, in order that we might buy up in the mean time all the honey we could get hold of. But if that had been our intention we should have been very foolish, from a business point of view at least, to state in August, before the honey was ready to market, that there was a shortage. If we had had any such desire to take advantage of the market we would have held back this last piece of information, bought up the honey, got a big slice, then came out with flaming statements that the crop was short, in order to advance the price and thus make a good profit.

As a matter of fact, what little honey we did get was after October 1st, and *after* we had stated in that issue that the crop for this season was lighter than it had ever been before. This would have the effect, if any thing, to advance prices, compelling us to pay the advanced figure.

SHUTTING THE BEES WITHIN THE HIVES, BOTH IN THE WINTER REPOSITORY AND OUTDOORS.

I HAVE been making some experiments during the last few weeks; and while I do not yet definitely know what the results will be, yet they are of such a nature that our readers should know what they are, and be given an opportunity to try the same experiments and report next spring.

On p. 1367, Nov. 1, it will be remembered that Mr. O. L. Hershiser advanced some forcible arguments in favor of shutting bees inside of the hives in the winter repository during winter. He argued that many bees fly out of their hives on to the cellar bottom that are perfectly healthy; but when once out they are unable to return, and, of course, perish. If these bees had been confined within the hive they would, after leaving the cluster, soon join it again, adding their body heat to that of the general cluster. Mr. Hershiser was careful to stipulate that the bees so confined should have a large amount of ventilation—that is to say, large openings covered with wire cloth.

He uses a special hive-stand and bottom-board combined, the sides of which are cut away, and covered with wire cloth. This gives practically an area of ventilation equal to the whole bottom of the hive. The effect of this is to reduce the temperature within the hive, keeping the cluster more quiet, even when the temperature rises a little high in the cellar itself. But Mr. Hershiser urges another point—that is, that the cellar need not be darkened when the bees are shut in.

Our Mr. Calvert called on him, looked over his cellar, and was surprised to see how nice and quiet the bees were, and how few dead bees were in the hive-bottoms; for if they died at all they would have to die within a few inches of the cluster, as they could not get out of the hive.

It has generally been considered bad practice to shut bees within the hive for either indoor or outdoor wintering. With the ordinary hive-entrance this would be true. The amount of ventilation provided by an opening ⅝ deep by the width of the hive is very scant for cellar wintering. If this narrow opening be covered with wire cloth it will not be long before this space will be covered with dead bees, and the ventilation practically shut off. This, of course, means death to that colony within a short time. Mr. Hershiser, however, provides a ventilating space so ample that the bees can never want for air at any time. Those that would die any way, and seek to get away from the cluster, would

be shut within the hive and not litter the cellar bottom all up.

We have been testing lately various widths of openings, some narrow and some wide, covered with wire cloth. The narrow openings soon cause an uneasiness on the part of the bees. The internal temperature of the hive would get so high that the bees would cluster out in the little space covered with wire cloth, and seek escape, making a general buzzing of discontent. But where a larger opening was provided, entire quietness prevailed.

How do we provide a larger opening? We made some special rims all the way from 3 to 5 inches deep, without top or bottom, of the same width and length as the hive. The sides of these were left open, and covered with wire cloth. The bottom-board of the hive was pried loose, when one of these rims was interposed between the hive and the bottom. The entrance space was closed up with a cleat. This rim with wire-cloth sides would leave a space anywhere from 3 to 5 inches under the frames. (It is proper to explain right here that some of these rims were 3 inches deep, and others 5, the deeper rims being used on the stronger colonies.)

So far we note that, when the temperature in the cellar rises to 50 degrees or higher, these bees that have these special ventilating rims under them, providing a large amount of ventilation, remain perfectly quiet, while those with the ordinary hive-entrance become uneasy.

Right here I ought to explain that the ordinary entrances were not covered with a mere strip of wire cloth, but with a sort of wire-cloth cage as long as the entrance is wide, the ends being made of wood and 3 inches square. Such a cage provides a clustering-space in case the bees should come out, and at the same time shuts them in the hive.

Well, these devices proved to be so unsatisfactory that we abandoned them almost as soon as we put them on the hive. But we found an excellent use for them for the outdoor bees. And this reminds me that a cage to slip over every one of the outdoor bees, of the kind described, will prevent all such bees from flying out on chilly days when the sun shines bright, saving a tremendous loss.

I asked Mr. Vernon Burt one day how many bees he thought he lost by their flying out on bright days when it was too chilly for them to get back. "Bushels and bushels of them," he said. Observing that many of our bees were dying in the grass in the late fall, having been allured by a deceiving sunshine, I finally decided to make up a lot of cages of galvanized wire cloth. These, as I explained, were 3 inches square and the length of the entrance, one side open to fit against the hive, the bottom and ends made of wood to hold the wire cloth in shape after being nailed on. This left two long sides covered with wire cloth.

We now have something like 200 of these cages attached to our hives—about half of the whole number. Two days ago we had one of those deceiving bright days that drew out a great many bees from the entrances not closed with the cages. These bees appeared to be in every way healthy; but hundreds of them could be counted in the grass, and the aggregate number would amount to a good many thousand. It was interesting to note that the bees in closed entrances came out into the cages; but after finding they could not fly, and that the air was chilly, they would crawl back into the hive and join the cluster. These bees, I positively know, we saved. So well pleased am I with the results thus far secured that I think we shall attach cages to all our outdoor colonies.

"But," you ask, "how are you going to give the bees a cleansing flight and keep them shut in? Will you not thereby induce dysentery if you do not let the bees fly on a day when the weather is suitable?" This is all easy enough. When the weather warms up so it is perfectly balmy we shall go around and pull off all the cages, laying them on top of the hives temporarily. At night put every one of them back in its place. So you see there is nothing in the cage plan that will prevent the bees from having a cleansing flight *when such flights can be had without actualy chilling them to death.*

I shall have some illustrations showing both the form of this outdoor cage as well as the wire-cloth ventilating rim; but as I conclude that many of our readers would like to save some pecks, or I might say bushels, of their bees, I thought best to give a general description, letting each bee-keeper work out the details for himself.

WHAT THE UNITED STATES GOVERNMENT IS DOING FOR BEE-KEEPERS IN THE MATTER OF BEE DISEASES.

OUR readers know, of course, that Uncle Sam has taken an active interest in the general subject of bees. He has now several salaried employees who devote all their time to apiculture. Dr. Phillips, in charge of apiculture, during the absence of Mr. Benton, in the Orient, has taken a great deal of interest in the subject of bee diseases—a subject that sorely needed the attention and cooperation of the general government. He has made several visits to disease-infected districts, and had many conferences with foul-brood inspectors from all over the United States. In addition to this he has called to his aid a skilled bacteriologist in the person of Dr. G. F. White, formerly at Cornell University. Dr. White, be it remembered, while at Cornell, had, on behalf of the bee-keepers of New York, done considerable work in the investigation of bee diseases, and from the very first he identified the microbe of the so-called black brood as the *Bacillus alvei* of Cheyne and Cheshire. Since he has been employed by the general government he has continued his investigations, examining a large number of samples of infected brood, both of the old foul brood and of black brood. Not only that, he has given his attention to all forms of maladies

affecting bees, including bee paralysis and pickled brood, so called.

As a result of all this work, there is just being published two important bulletins—one by Dr. White, Technical Series No. 14, of the United States Department of Agriculture, entitled "Bacteria of the Apiary." This relates to a technical discussion of the general subject of bacteriology and its relation to the diseases of bees.

The other bulletin, Circular No. 79, of the United States Department of Agriculture, is by Dr. E. F. Phillips, entitled, "The Brood Diseases of Bees." This seems to be somewhat supplementary to the bulletin by Dr. White, and deals with practical considerations, fully describing the various diseases and then entering into their treatment.

I do not hesitate to state that these documents are two of the most important that have ever been put out by the Department on apiculture, for they relate to the very foundation of the whole business. There is no use trying to disguise the fact that bee diseases in many parts have been getting the upper hand of us, and now the authorities at Washington are giving us material aid; but Dr. Phillips and Dr. White have gone even further. They called a convention of foul-brood inspectors from all parts of the United States, the same being held soon after the big convention of the National Bee-keepers' Association that was held at San Antonio. A report of this is given in our next issue.

Referring again to the bulletin by Dr. White, I may state that the average bee-keeper will not be able to make very much out of the technical part of this paper. At the same time, the amount of material placed at the disposal of scientific men generally will be of immense value in stimulating further investigation.

Coming down to practical considerations, Dr. White finds that there are two distinct brood diseases, one more destructive than the other. For some years back the bee inspectors in some parts of the country have noted the same fact. In Europe it has been repeatedly stated that there were two diseases—one a mild and one a virulent form.

The problem that devolved on Dr. White was to discover the microbe of each disease. His work was rendered more complicated, not to say embarrassing, by the fact that, after repeated investigations, he could not confirm some of the work done by some of the other bacteriologists. Dr. J. J. Mackenzie and Dr. Harrison, both of Canada, reported that they found *Bacillus alvei* in the diseased matter of ordinary foul brood. Dr. Howard, of Texas, claimed to have discovered the real microbe of black brood, calling the same *Bacillus milii;* but, strangely enough, Dr. White, who has given this subject more attention and study, probably, than all the rest of the investigators put together, was unable to discover *Bacillus milii* in so-called black brood: but he did find, and that, too, repeatedly, the *Bacillus alvei* of Cheshire. When he announced his findings, in 1902, it produced more or less consternation in all circles. But Dr. White continued his studies the next year, only to confirm his previous work. Since he has been in the employ of the general government he has gone all over his work again, and still finds the *Bacillus alvei* in black brood, but not in foul brood as we have known it in the United States. In this latter he finds a new microbe which he designates as *Bacillus larvæ*. Having, therefore, found the germs of the two diseases, the question then came up, "What names shall be used?" The opinion of the leading bee-keepers and foul-brood inspectors was sought by Dr. Phillips, and it was finally decided to call black brood "European" foul brood; and the ordinary foul brood, with which we are best acquainted, "American" foul brood. These were not so named because of geographical considerations, for both diseases are found in both countries. But the disease caused by *Bacillus alvei* was named *European* foul brood because the microbe of that disease was first discovered in Europe. The ordinary foul brood was named *American* because the microbe of that disease was first discovered in America.

The question might arise, "Why not have retained the old names, black and foul brood?" In the first place, black brood was an old disease with an adopted name that did not belong to it. The authorities "thought best to call both diseases foul brood, which they really are, because to call them any thing else would result in complicating the laws now in force which control the infectious diseases of bees, and would serve no good purpose." It will be understood, then, that these names, American and European foul brood, have no reference to geographical distribution of the diseases.

Dr. White has not yet located the microbe of the so-called pickled brood nor of bee paralysis. These will doubtless be the subject of further investigation.

This bulletin can be obtained by applying to the Superintendent of Documents, Washington, D. C., on the payment of ten cents. Stamps will not be accepted. A ten-cent piece can be slipped in a hole in a piece of cardboard and sent safely. The other document, the one that will be of the most practical value to the ordinary layman bee-keeper, Circular 79, by Dr. Phillips, will be sent free, probably.

BROOD DISEASES OF BEES, BY DR. E. F. PHILLIPS.

This is a pamphlet of five pages of matter. While it does not pretend to be an extended treatment of the general subject, it gives all that is necessary to know. In the description of the distinctive symptoms of the two diseases, American and European foul brood, I can not do better than to quote direct from the bulletin.

AMERICAN FOUL BROOD.

American foul brood (often called simply "foul brood") is distributed through all parts of the United States, and from the symptoms published in European

journals and texts one is led to believe that it is also the prevalent brood disease in Europe. Although it is found in almost all sections of the United States, there are many localities entirely free from disease of any kind.

The adult bees of an infected colony are usually rather inactive, and do little toward cleaning out infected material. When the larvæ are first affected they turn to a light chocolate color, and in the advanced stages of decay they become darker, resembling roasted coffee in color. Usually the larvæ are attacked at about the time of capping, and most of the cells containing infected larvæ are capped. As decay proceeds these cappings become sunken and perforated, and, as the healthy brood emerges, the comb shows the scattered cells containing larvæ which have died of disease, still capped. The most noticeable characteristic of this infection is the fact that when a small stick is inserted in a larva which has died of the disease, and slowly removed, the broken-down tissues adhere to it and will often stretch out for several inches before breaking. When the larva dries it forms a tightly adhering scale of very dark brown color, which can best be observed when the comb is held so that a bright light strikes the lower side wall. Decaying larvæ which have died of this disease have a very characteristic odor which resembles a poor quality of glue. This disease seldom attacks drone or queen larvæ. It appears to be much more virulent in the western part of the United States than in the East.

EUROPEAN FOUL BROOD.

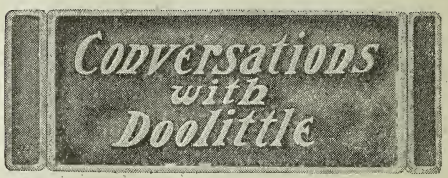
European foul brood (often called "black brood") is not nearly as widespread in the United States as is American foul brood, but in certain parts of the country it has caused enormous losses. It is steadily on the increase and is constantly being reported from new localities. It is therefore desirable that beekeepers be on the watch for it.

Adult bees in infected colonies are not very active, but do succeed in cleaning out some of the dried scales. This disease attacks larvæ earlier than does American foul brood, and a comparatively small percentage of the diseased brood is ever capped. The diseased larvæ which are capped over have sunken and perforated cappings. The larvæ when first attacked show a small yellow spot on the body near the head and move uneasily in the cell. When death occurs they turn yellow, then brown, and finally almost black. Decaying larvæ which have died of this disease do not usually stretch out in a long thread when a small stick is inserted and slowly removed. Occasionally there is a very slight "ropiness," but this is never very marked. The thoroughly dried larvæ form irregular scales which are not strongly adherent to the lower side wall of the cell. There is very little odor from decaying larvæ which have died from this disease, and when an odor is noticeable it is not the "glue-pot" odor of the American foul brood, but more nearly resembles that of soured dead brood. This disease attacks drone and queen larvæ very soon after the colony is infected. It is, as a rule, much more infectious than American foul brood and spreads more rapidly. On the other hand, it sometimes happens that the disease will disappear of its own accord, a thing which the author never knew to occur in a genuine case of American foul brood. European foul brood is most destructive during the spring and early summer, often almost disappearing in late summer and autumn.

This differentiation, from what I have been able to discover, is accurate, and one who will follow it carefully will be able to distinguish pretty unerringly between the two diseases, which, though very much alike, yet in some important respects are very dissimilar. Pickled brood, Dr. Phillips describes as being "characterized by a swollen watery appearance of the larva, usually accompanied by black color of the head. The larvæ usually lie on their backs in the cell, and the head points upward. The color gradually changes from light yellow to brown after the larva dies. There is no ropiness, and the only odor is that of sour decaying matter, not at all like that of American foul brood."

Personally I have had more trouble in distinguishing between pickled and European foul brood, because at some stages the distinguishing symptoms do not appear. In that case the only thing to be done, probably, is to send a sample to Dr. Phillips.

The treatment for the European and American foul brood is the McEvoy, shaking on to foundation. In the case of American foul brood, Dr. Phillips advocates that the hives be disinfected by burning out the inside of the hives. He does not appear to urge this, however, in the case of European foul brood.



EMBRYO QUEEN-CELLS; FINDING EGGS, ETC.

"Say, Doolittle, I want to ask you a lot of questions."

"All right, Mr. Smith. I'll do the best at answering that I can. What is first on the program?"

"The books tell me that, when I find queen-cells in any hive, the bees are making preparations to swarm. Is this always the case?"

"No. Perhaps the books do not go into the minutiæ, or do not sufficiently explain so that a novice may understand. What part of the matter is bothering you?"

"Last summer I hived a prime swarm in a hive, the frames of which were filled two-thirds full of comb foundation, as I did not have foundation enough to fill all the frames full. In about a week I looked into the hive, and I found on two of the combs, built from the foundation, near the bottom of the comb, quite a number of queen-cells built, and I watched that hive for days and weeks, expecting it would swarm, as the books said, but it never swarmed at all."

"What do you mean by queen-cells?"

"Just what any fool would mean. A queen-cell is a queen-cell, is it not?"

"Well, perhaps so, to a fool or a novice; but when the bees first start a queen-cell it is only in the embryo state; and when in that state I call them queen-cups, or embryo queen-cells. These embryo queen-cells, resembling an acorn, cradle, or saucer, as they are sometimes called, are found in each colony, so far as my experience goes; and new swarms, as you say, build them almost invariably during the first two or three weeks after hiving; but such cups, not more than from $\frac{1}{4}$ to $\frac{3}{8}$ inch deep, are no sign of swarming at all, as they are found at all times of the year, and in all or nearly all colonies, be the same weak or strong."

"Then why do not the books explain?"

"I suppose they think that we should be familiar enough with the inside of the hive to know about these things."

"That is a strange supposition. What do

I want of a bee-book but to tell me the things I do not know? Had they told me about these queen-cell cups I would not have wasted all the time I did in watching that colony. What kind of queen-cells are those which denote swarming?"

"They are such as are lengthened out till they are from ½ to ¾ inch deep, and in which you can see eggs or larvæ with royal jelly in. When you find such as these, and from this stage on to the completed or sealed queen-cell, then you may know that the bees either intend to swarm soon, or else that they are calculating to supersede their old queen. If you find such as these during the swarming season you will naturally expect swarming, as very few colonies supersede their queens during the swarming season."

"When do they do their superseding?"

"Mainly after the swarming season is over, or at the close of the white-honey harvest, though quite a few will be superseded before the swarming season has fully arrived. But my experience is that five queens will be superseded between July 20 and August 20, in this locality, to where one is at any other time of the year, and the dates given are for the time which usually comes between the basswood flow and that from buckwheat."

"Well, that helps me out a little. But I think the books ought to mention the matter that no swarms need be expected from the finding of queen-cups."

"I think that such mentioning in a prominent way might be a good idea, and help the novice to understand matters rather more fully."

"A moment or two ago you spoke of finding eggs in queen-cells. Now I want you to tell me how I can find eggs, not only in queen-cells, but in any of the cells in the hive. I am often puzzled in this matter, as my eyesight is not very good."

"In hunting for eggs it is best to do it on a sunshiny day, and always turn the back to the sun, or toward the brightest part of the sky when the sun does not shine. No person, no matter how good the eyesight may be, can well see the eggs of the queen-bee in the bottoms of the cells when he stands facing the sun and holds up the comb so that the cells containing the eggs are in the shade. Turn your back to the light, and hold the comb so that the rays of the sun can strike the bottoms of the cells you are looking into, when you will see the little eggs, about a sixteenth of an inch long, and as large around as a fine sewing-needle, attached to the bottoms of the cells."

"Well, I guess I see my mistake; but I may not be able to see so small a thing, even then."

"A pair of quite strong spectacles can be used profitably, as a sort of magnifying-glass, for such and similar examinations. Formerly I did not use such; but since my eyes began to fail I do not try to see eggs or small larvæ, without glasses. With glasses, and turning your back to the light, and allowing the light to shine in the bottom of the cells, I do not think you will have any further trouble along this line."

"Thank you. Now another question: In handling bees it often happens that I get honey on my fingers, and then I am sticking to every thing I touch. I have tried to wipe the sticky stuff off on the grass, but it does little good. What do you do when you get daubed with honey in such a way?"

"Every well-regulated apiary, no matter if it does not contain more than five colonies, should have water standing or running in it, and a towel near by, for just the purpose of washing the hands, and the tools used during the manipulation of bees, for the operator is liable at almost any time to get either his hands or the tools used daubed with honey; and I know of nothing more annoying than to try to work further with the bees when any thing that must be used is daubed with honey. As soon as you get through with that which is necessary to have honey on it for the time being, wash the hands, tools, etc., and wipe them, and your trouble is all over."

"What do you keep standing water in for this purpose?"

"The nicest thing I know of is a length or joint of glazed water-pipe, such as is used for bridges or sluices to carry water under the highways of our country roads, and for sewers, etc."

"How do you fix one of these so it will hold water?"

"Take three parts of sand and one of Portland cement; stir well together while dry, so as to mix thoroughly. Now dig a hole of suitable size in the ground in a handy place, when you will wet the sand and cement till of the consistency of mortar for using, then you will pour it into the hole you have dug, and then set one end of the glazed water-pipe in the concrete and leave it to harden. When fully set or hardened, you will have something which will hold water like a cistern, will not rust or corrode, and you can empty it at any time you desire by tipping it over, as the concrete will stick to the pipe rather than to the dirt of the hole."

"Would not an earthern jar do as well?"

"It would be the next best thing to what I have described. The only disadvantage would be that a jar of the same capacity would cost much more, and, being so much lighter, it would be more liable to get broken. Either one should be made free from water during the freezing period of the year, as the action of frost in forming the water into ice would break either."

"One more question and I will be going. You say the farmer at your out-apiary uses his cellar during winter, while your bees are in the cellar, just as he pleases. How about the light, when the doors and windows are used? Do you partition off the part of the cellar in which the bees are, so the light can not reach them?"

"No. I pay no attention to the light, further than to set the hives so that the entrances face the rear cellar wall. The door leading into the cellar is in the front wall, together

with one window; and there is a window in the center of each side wall, but none in the back wall. These three windows are not darkened in any way, and the door is open at all times when the farmer is getting produce either in or out from the cellar; but with the hives set with the entrances near and facing the wall at the rear, the bees are in a sort of semi-darkness; or, in other words, the light does not directly strike the bees in any way unless they crawl out at the entrance and around on the side of the hives. If they do this the light can strike them directly."

"I should think many would get lost in this way."

"I feared so at first; but after nearly twenty years of wintering them thus, I do not see that the loss of bees is any greater during their winter confinement than is the case with a cellar without one single ray of light penetrating the same."



A writer in the *British Bee Journal* is giving us some interesting talks on the pronunciation of terms used by bee-keepers. This is certainly a good field to plow up and seed down, although all doubts may be removed by consulting a dictionary. The author of these talks on bee-words says that "pro-*po*-lis" is a wrong pronunciation of that word, and that "*pro*-po-lis" is not heard from those who mingle much with bee-keepers. That seems a little strange, for it is quite a bee locality here in Medina, and "*pro*-po-lis" is the only pronunciation I hear, and this is the first or preferred accent given by the Standard Dictionary and all others I have seen. The origin of the word would seem to show that that is the best way, as *pro* means in front of, and *polis* means a city.

About twenty years ago an attempt was made ih this country to put very small sections of honey on the market—some that would sell for about a nickel apiece for picnic purposes. The plan was soon dropped, however, and nothing more said about it till recently, when the matter was reviewed in England. Mr. Robertson, the projector, says in the *British Bee Journal*, "These sections weigh 1 oz. each, probably slightly more, and so to retail them at 18 cts. a dozen, or in other words at 24 cts. a pound for honey, should not spell financial ruin to those bee-keepers who try them. It is absurd to suggest selling at 12 to 16 cts. a pound and thus give 100 per cent to the restaurant. I understand 20 cents a dozen is the price paid by tea-rooms for their small pots of jam, so that 18 cts. a dozen is not an out-of-the-way price for these miniature sections." The result will be watched with interest on this side.

A French correspondent, and a user of honey, both comb and extracted, says if those who use comb honey would pour milk on it they would find the honey greatly improved, as the milk deprives it of the intensely sweet flavor that prevents most people from eating more than a spoonful at one time, as it then cloys the taste. That is all true, as I know by experience, only I improve the milk by dropping the honey into that. Father Langstroth once wrote an article for these columns, in which he showed that milk is the natural complement of honey, and that the two should be used together when honey is used for food. In ancient times, as we learn from the Bible, milk and honey were always considered as supplementary to each other. Eighteen books in the Bible refer to honey, and in every instance it speaks of it favorably, and generally as a great blessing. The above might also include what is said of honey-comb, where, plainly, comb honey is meant. I can more easily eat half a pound of comb honey, with plenty of milk, than half that amount without milk.

Much has been said against the eating of wax in comb honey; but, like W. Z. Hutchinson, I do not notice any ill effects from it.

A year ago considerable interest was aroused among bee-keepers on both sides of the line relative to a suit for damages, in which Mr. Morley Pettit, of Ontario, was defendant. The *Canadian Bee Journal* sums the whole matter up thus:

> The appealed bee case of Lucas vs. Pettit (our friend Mr. Morley Pettit, of Villa Nova) has been decided against the defendant. We presume it is natural for us to sympathize with the bee-keeper while we bow to the decision of the judge.
>
> For the information of those who may not have seen the report of this suit in the papers, Mr. Pettit's side of the story is that, on August 10, 1905, Freeman Lucas, a neighboring farmer, led his team of horses into his oatfield, which was across the road and at a safe distance from one of Mr. Pettit's yards, with the intention of cutting the oats. Mr. Lucas went back to shut up the gap, and when he turned to his horses there was a cloud of bees flying around them, stinging them. He attempted to drive the bees away with his hat, which only made matters worse, and was himself stung so that he ran and rolled in some mud near by, then went home, leaving the horses standing. The horses both died. The indications were that a swarm had clustered in the oats, and the horses, getting into them, stirred them up with the above results. The case was tried in Simcoe, where the jury brought in a verdict of $400. Mr. Pettit appealed the case, but was again defeated.
>
> The strange thing about the case is that, while Mr. Pettit has been made responsible for the action of the bees, he could not legally have claimed the swarm had he wished to secure it in his neighbor's corn-field, according to R. S. O., 1897, chapter 117, section 5, which reads: "If the owner of a swarm of bees declines to follow the swarm, and another person undertakes the pursuit, such other person shall be substituted in the rights of the owner; and every swarm which is not followed shall become the property of the proprietor of the land on which it settles, without regard to the place from which it has come."



Wise is the man who prepares ahead,
And makes ready for the unexpected;
He is the man who makes his bread,
And, above all, should be respected.

Circular No. 79 of the Bureau of Entomology, Washington, D. C., "The Brood Diseases of Bees," was kindly sent me by the author, Dr. E. F. Phillips, Apicultural Expert. It treats the subject in a very condensed form, and treats American and European foul brood principally with methods for successfully treating the same. It will be found to be of much interest to bee-keepers, and a copy can be obtained free by writing Dr. Phillips as above.

That "shorter spelling" question is up again. Several years ago this sort of spelling suited me so well that it was adopted and used for a long time. While connected with the Agricultural and Mechanical College of Texas, however, it had to be dropped for the reason that my manuscript matter had to be gone over and "corrected" before it could go. "Past" was changed to p-a-s-s-e-d; "spilt" to s-p-i-l-l-e-d; "thru" to t-h-r-o-u-g-h, etc. The *American Bee Journal* kept it up for a long time, although many of its readers "fought" against that kind of short spelling, but finally changed to the old way. I for one am in favor of the short spelling. It was no trick for me to learn it, so why should it be impossible for others? "A person is never too old to learn," they say.

That color plays a great part upon the stinging propensities of bees was proven again at the last extracting time when a brother and I worked in the yard together. He wore a black felt hat and black pants, while I had on a white straw hat and light-colored duck trowsers. The weather was a bit sultry, and the bees made a constant onslaught upon my brother's dark clothes every time a colony was handled, driving him out of the yard again and again, while I worked on, receiving stings only on the bare hands and unprotected wrists. They did not make a charge for my hat, while my brother's felt hat was covered with hundreds of stings and infuriated bees. The black clothing made the difference, for there was no such trouble upon other occasions.

The winter months are upon us, and the time for preparing for next season *should* be now; however, it is "put off" until later, when the busy season is at hand and every thing has to be done on the jump. At this time, generally, orders are sent to the supply-dealer from all corners, and he runs behind or short of stock, hence he can not fill them. The bee-keeper loses time, and honey (money), and he raves and puts the blame upon the supply-dealer when it is none but his own fault. The better way is to get supplies early, procure the discount given for early orders, and nail them up leisurely during the winter months. Try it. The result will be that you will have every thing in readiness far ahead of the time when needed and the harvest will be obtained with more leisure and more profit.

"Making" bees out of sugar syrup, says ye editor, p. 1229. That is a very good way to get bees. Most of our farmers have learned our price of a colony of bees, and they have consequently received the notion that theirs are worth $3.00 a colony also. Others have learned that *we* are making bees pay big, hence they hold on to theirs with the hope of reaping part of the other fellow's riches. By practicing wholesale increase with *prolific queens*, and feeding enough to produce an artificial "light flow," great results should be obtained. How would you feed? and what arrangements would you use? [Generally I would feed inside of the hives with a small feeder of just enough capacity to give a small feed daily. When small doses are given, and often, practically all of it will go into brood and bees. If large doses are given the syrup will go into the combs and not much into brood.—Ed.]

A MAGNETIC HAMMER.

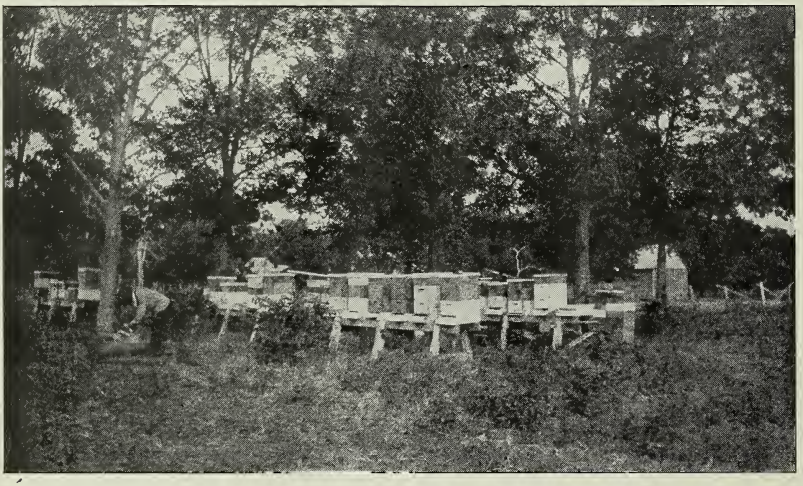
A small hammer, heavily charged, is one of the most handy tools for a bee-keeper. I have used them for years, always having a number of them at the several "stations." Having a crippled forefinger on my left hand makes it somewhat difficult to pick up the smaller nails used in frame-nailing, etc., so I stumbled across the magnetic hammers, which do the work for me. With it I can go J. A. Green just one better in picking up spilt nails. While he has an extra magnet to carry around, which, in all likelihood, may not "be there" when the nails are spilt, the hammer, naturally going with the nails, is put into play—a tool serving as two in one. Such hammers are cheap, small tack-hammers costing only from 5 to 10 cents, and a 15-cent size, if it is well charged, is the most satisfactory cheap hammer for frame-nailing, etc., and will be "strong" enough for picking up any of the sizes of hive nails generally used.

DOES ALFALFA YIELD HONEY IN TEXAS?

With the advent of irrigation in the arid regions of Texas, and the planting of alfalfa, will this State ever be classed with the Western States that produce enormous amounts of alfalfa honey annually? This has been an interesting question over which many of our bee-keepers have pondered. It is the general belief that alfalfa is a good honey-producing

plant, but no satisfactory data to that effect in Texas have been obtained. Investigations on this subject would, therefore, be very valuable, because, as irrigation and the growing of alfalfa in the State advance, the honey-yield is relatively increased; it means that many new localities for the location of apiaries would be opened, increasing the honey output to the amount of thousands of dollars. If alfalfa does not yield then, it will be well for bee-keepers to know it. There are those who contemplate locating in the coming alfalfa districts; but if alfalfa does not yield honey it would cause disappointment. For a number of years this has been a subject to which I gave close study. I have two apiaries near alfalfa, but as yet have failed to obtain any honey from this source during three years.

At the A. and M. College Experimental Apiary, small plots of alfalfa, planted for testing as a honey-plant, were visited by the bees, and is the only record I have been able to get to this effect. In 1902 a second growth, after cutting in July, came into bloom, and was also visited by the bees in great numbers. The soil is very poor, and of a sandy clay mixture. Here the bees worked vigorously



A TEXAS APIARY; ALFALFA TO THE RIGHT AND COW-PEAS TO THE LEFT.

The apiary here shown is located at the edge of an alfalfa-field, with others all around it, and close observation has been made at many different times, and in all kinds of weather conditions, but *not a honey-bee* was ever seen on the bloom while it stood in full bloom for several weeks sometimes. The same results were obtained at another of my apiaries seven miles from this one. These fields are in the rich Brazos River Valley, where alfalfa grows wonderfully without irrigation, producing a luxuriant growth and a profusion of large healthy bloom. The bees did not visit the alfalfa, even though there was no other bloom, and at the apiary shown here the cow-peas were visited as soon as they came into bloom. Cotton is the main source at these apiaries.

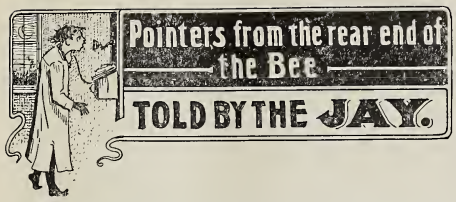
Here at New Braunfels alfalfa is grown under irrigation only a few hundred yards from our back door, and I visited the fields many times, making it a rule to go during different times of the day, and during different kinds of weather conditions. The same result followed—no honey-bees on the profusion of bloom, although small apiaries abound in immediate proximity. When there was nothing else in bloom, the bees idled, although the alfalfa was loaded with bloom, and it was not cut for several weeks. At one time a small yellow oxalis, growing in amid the alfalfa, was much visited by the bees, and the profusion of alfalfa bloom left unnoticed.

on the blooms, however, but the plots were only a few feet square.

POSTAL-CARD REPORTS ON ALFALFA WANTED.

I should like to have reports from as many bee-keepers as possible who have any information about alfalfa as a honey-plant, not only from Texas but from all parts of the South and Southwest. Postal-card reports, in brief, will be all right, just so the important matters are mentioned. It would be well to answer the following questions: Have you ever seen honey-bees work on alfalfa? Was any surplus honey obtained from that source? Irrigated or not irrigated? What kind of land? Weather conditions, rain, etc.?

All such information will be greatly appreciated, and we may arrive at the truth whether alfalfa may prove a good honey-producer for Texas. My present address is New Braunfels, Texas.



One night the phone rang. "Say! is this that Jay, the bee crank?"

"Aye, aye, sir."

"Well, I am in a fix. I just bought five gums of bees and moved them only two blocks, and most of them have gone back to their old place, and there is a bunch of bees hanging on the fence as big as a bushel basket. What can I do?"

"Think you have done a little too much already."

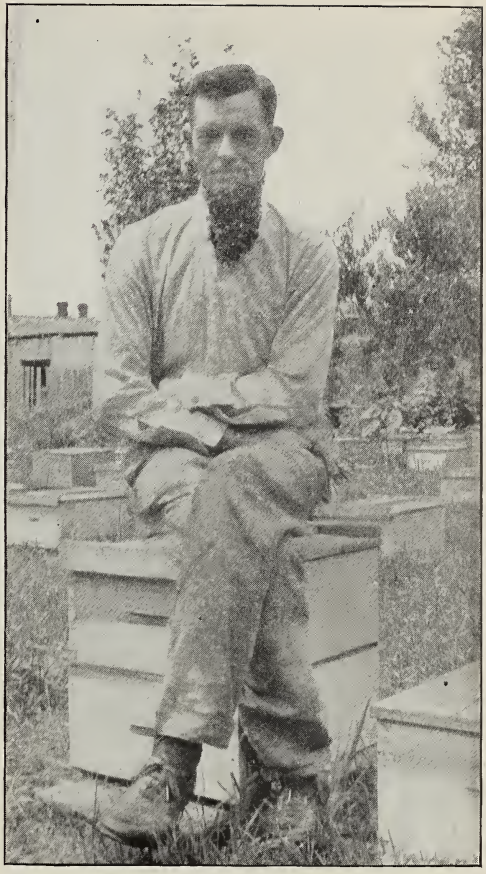
"Haven't you any thing to offer me?"

"Nothing I can think of at present except my sympathy. You might put an empty hive there and give them a queen."

"This was considered the best plan, so in the morning I went over with a virgin queen about three hours old. We let her run into the hive and she was kindly received. She was the only thing that was kindly received. Never before had I seen such a mess of angry bees. They were all fielders that had returned to their old home, so of course the whole fighting force of the five hives was there. Smoke had little effect upon them, as they had no honey to eat. A bee would alight on my face with criminal intent. I would swat her one, sometimes before she stung—usually just after. My friend said: "You mustn't strike at the bees that way.



That makes them angry. Never make any quick movement when you are among them or they will be sure to sting. Be quiet. Do not wink. Do not smile" (I hadn't so far); "hold your breath and cultivate a pleasant



"My bees and I are very much attached to each other."—THE JAY.

disposition. Here! Let me show you how."

"Very well," I answered. "I should be delighted to learn. Just take this smoker and drive them off from the fence into the hive."

Before he had gotten near them there was a score of angry bees dancing in front of his face. Still his courage was undaunted. Satisfied there was going to be a scene I got well back out of range and sat down to pick out stings and enjoy the sport.

Now, my friend is an intelligent man. All who know him say there is nothing the matter with his upper story with the exception that it has no hair on top of it—not a serious objection in the ordinary walks of life, but on extraordinary occasions like this it was a matter not to be passed lightly over by the bees. His head was bald from his eyebrows to his coat-collar.

On he went. A bee stung him on the hand. He took no notice. One stung him on the neck. Still his stolidity was maintained. Another took him on the ear. His sweetness of disposition still remained intact. At last one got him with one of those

double-strength extra-hot ones(you all know) right on the end of the nose. Say! his dignity went all to pieces in a twinkle. Now, why was it that those other stings had no effect upon his temper, while that single one on the nose fanned his spark of indignation into a roaring holocaust of wrath? It was simply a matter of "locality." He brought his hand to his nose and killed the bee. That seemed a signal for a general assault all along the line. He brought up his other hand and accidentally knocked off his hat. This exposed to the fire of the enemy that shiny, glossy, mirror-like head. How very thankful I was then that my head was bald on the inside instead of on the outside! They covered his head as if it were a buckwheat-field; and—

They stung him in the whiskers,
They stung him in the face,
They stung him in the eyes and nose,
They stung him ev'ry place;
They stung him on the ears and mouth,
They stung him on the chin,
But the way they peppered his bald head
Was certainly a sin.

Some of them went up his sleeves,
Some went far down his neck;
But the number that crawled up his pants
Must have been mor'n a peck.
He jumped and pranced about the lot;
How—oh how!—he slapped his pants!
The bees kept at it all the same;
And mercy! how he danced!

He stumbled o'er the chicken-coop,
The little chicks got out;
The woman came upon the scene
(You ought to've heard her shout);
He knocked the grindstone over,
He broke the boy's toy sled;
Uncomplimentary, you bet,
Were many things he said.

He brought his hand against his face
With a tremendous spank—
"Confound your ornery blooming bees!
Blank! Blank! Blankety Blank!"
The bees had him defeated,
Something must be done—
He did the only thing he could—
He turned around to run.



SOLILOQUY.

"When I go near the bees again
I'll keep my hat on tight,
For they get on too quick, you know,
When I take it off to fight.
If e'er another bee I get,
'Twill be the stingless bee—
They would try to find some hair to pull
Instead of stinging me.
About the bee's intelligence
The poets like to harp,
But this I know: At either end
The bee is mighty sharp."

In fact, if Mr. Alexander had seen the fracas illustrated below he would have had to acknowledge that there was one place that was "overstocked." The owner certainly thought he had more bees in one place than was profitable, and tried to dispose of some of them, but did not succeed very well.



A QUEEN-FERTILIZING TENT.

How One can be Used for the Purpose of Controlling the Male Parentage; Some of the Difficulties Encountered; Will the Plans Finally be Successful?

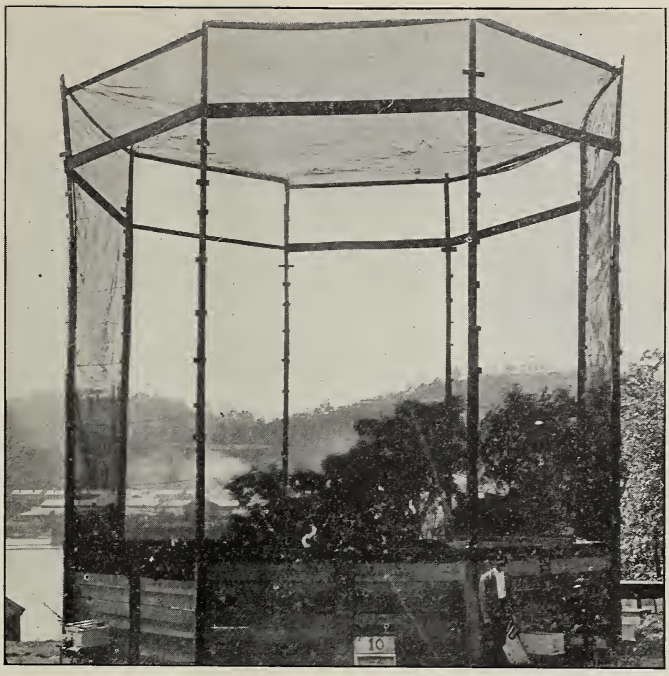
BY C. M. CHURCH.

I will explain to our readers that I made arrangements with Mr. Church to bear part of the expense of this experiment, he to furnish us the results. I had always had a desire to test it, but with our busy rush at Medina we had no one here who could give the matter time and thought sufficient to give the plan a fair trial.—Ed.

After having studied bee-keeping for a number of years, and being a great lover of bees and honey, I concluded to rear a few queens, as much for pleasure as for profit. Here I came to the question confronting all queen-breeders: "How can I breed pure stock and be able to guarantee it without testing?" That is, instead of giving queens to all my neighbors to have only pure stock in the vicinity, how could I be sure that my queens were mated to select drones? Casting about for the best plan to try, I noticed the large tent or dome built by J. S. Davitt, of Aragon, Ga., mentioned in the A B C of Bee Culture; and, after corresponding with Mr. Davitt, I found that he succeeded in fertilizing queens in his dome, and that it was a perfect success. So I concluded to try his plan, which was, to build a tent of wire cloth as shown in the illustrations.

HOW WE BUILT THE TENT.

The one that I built was 30 feet in diameter and 30 feet high. I used 8 poles 34 ft. long, set in a circle about 15 feet from the center, giving a circumference of 94 ft. The poles were set into the ground 4 ft. You will see by the picture a 1×4-inch strip nailed to the top clear around to tack screen to, and another 1×10-inch piece nailed 4 feet from the top to walk on while putting on the wire cloth, etc. To keep the whole structure from being blown over, a guy of No. 6 galvanized iron wire was run from near the top of each pole out to a stake or tree. To support the wire cloth on the top, there were wires strung across through the center from



C. M. CHURCH'S QUEEN-FERTILIZING TENT.

pole to pole. The walls were boarded up 6 ft. from the ground all around, and in these side boards holes were cut to admit hives, and six full colonies of bees were so placed that the rear of the hive opened into the large tent or dome. The outer entrance at the front was covered with queen-excluding zinc so that only the workers could pass out. In those six hives I placed all the drone brood I could spare from the yard. The inside entrances — that is, those opening into the tent — were closed evenings, and opened about 10 o'clock on sunshiny days, to allow drones to fly. I made some small three-frame mating-boxes, and cut holes similar to those for the hives, and inserted them in the side of the tent. These, like the large hives, had excluding zinc over the outside entrances, and the inside entrances were opened about 10 o'clock each bright day.

EXPENSE OF THE TENT.

To build this tent or dome, the wire screen cost me $39; the lumber and nails, $41; the guy wire, $3. It took my son and me ten days to build it.

RESULTS.

In this tent I lost, during five weeks' time, about four colonies of bees, all the drones I could spare, and about fifteen queens. I succeeded in getting one queen fertilized.

THE CAUSE OF FAILURE.

Here is my theory as to why Mr. Davitt succeeded while I failed. He used mosquito-netting made of cotton while I used wire cloth. The drones would fly against the wire cloth, and, after a few times, their wings would be torn so they would fall to the ground and crawl helplessly around. The queens suffered the same fate. I do not believe that one per cent of the drones succeeded in flying in the tent two days in succession.

MOSQUITO-NETTING PREFERABLE TO THE WIRE CLOTH.

I believe the scheme will work with netting



A QUEEN-FERTILIZING TENT FOR CONTROLLING THE MALE PARENTAGE.

instead of wire, and hope to try it again another season.

Arnold, Pa.

[The first season's test does not seem to be very much of a success, it is true; but for all that I can not help feeling that the plan can be *made* to work. I read over the private letters from Mr. Davitt, the originator of the scheme, to Mr. Church. They all bear the evidence of candor. In fact, the whole tone of them indicates that the man actually did all he claims.



C. M. CHURCH, ARNOLD, PA., WHO HAS BEEN EXPERIMENTING WITH A LARGE TENT FOR THE FERTILIZATION OF QUEENS.

No one would have surmised at the start that the wire cloth would not have been as good as the mosquito-netting; but when one stops to reflect a moment he can readily see that the former, by reason of its rigidity, would discourage and kill both drones and queens, for their continual bumping against a hard surface could not fail to work disastrously. Bees may bump against mosquito-netting, and it will do them no harm. Therefore I hope that our correspondent will try the experiment again, now that he has the poles up, using mosquito-netting, at least in the *top* of the cage.

I have learned that a heavy windstorm did considerable damage to the structure, and that some extensive repairs will be required before another season. I hope myself to see the thing tested to a finish before another year, with mosquito-netting. If it is a fact that Mr. Davitt succeeded (and I have no reason to doubt his word), I do not see why others can not make a success of it.

We shall never be able to make very much improvement in our strain of bees till we can control the male parentage. This can be done only on an island remote from the land, or in a large cage. As our readers probably know, we have been having our Caucasians mated on an island off the coast of Florida, and the results were very satisfactory. But an island is out of the question for the great majority of queen-breeders, and has the further disadvantage that, unless located in or near the tropics, the cold winds will kill many bees.—Ed.]

CAUCASIANS VS. BANAT CAUCASIANS.

BY N. E. CLEAVER.

I wish you would get A. I. Root to play a little with the Banat Caucasians. His love for any thing in the bee line which is really good would find a worthy object on which to expend itself. They are remarkable bees. They have all the good traits of the Caucasians and none of the bad ones. Mine I really think a little more gentle than the Caucasians, and as quiet on the combs as any Italians I ever saw. My Caucasians are not bad propolizers, during the summer. When the Italians were gluing the frames together very badly the Caucasians did not stick them together at all. During September, however, there were large wads of propolis placed near the entrace, not between the frames nor around the cover, but on the bottom of the frames near the entrance; and the substance is quite unlike the propolis gathered by the other bees in the same yard. My Banat Caucasians did not propolize at all. They stuck the frames together with bits of white wax. There is a marked difference in the young queens mating and beginning to lay. The Banats mate about the fifth day, and are soon vigorously at work in the egg business. Several breeders have complained to me that the Caucasians are half lost in mating. At the time I would expect the young queens to be laying nicely I would find about a fourth of the Caucasians all right; another fourth present but not laying, and about half missing. I was about concluding that the advice of a neighbor breeder, Mr. Pressler, was right. He said, "Don't monkey with the Caucasians—take the advice of your fool friend." But after a week or two the missing queens would be back all right. At first I thought it was because I failed to find the queen. So I used golden bees for the nucleus, but the result

was the same. I would seek for them several days in succession, and after a while the queen would be there, poor and thin and glossy, then in a few days she would develop and begin laying. Since learning these things I have not bothered the nuclei for about two weeks, and I have no more trouble. I made a comparative test of the Banat Caucasians, the Caucasians, and the golden Italians, with respect to honey-gathering. I will write it up and send it to you, for I think it valuable information. However, a real test must extend through more than one season.

Emporium, Pa., Oct. 4.

[We should be glad to have you give us the results of your observations regarding the three races.—Ed.]

THE IMPORTANCE OF A LARGE ENTRANCE IN SUMMER.

BY E. R. ROOT.

Our readers will remember that I have time and time again urged the importance of having a large well-ventilated entrance in the height of the season. Our neighbor, Mr. Vernon Burt, is one who believes emphatically in such ventilation. The accompanying photo shows the kind of entrance he uses, and the alighting-board that is a part of the hive-stand leading from the ground to the entrance of the hive.

The camera does not show how the bees were hanging down under the frames, nor does it show how the flying bees would dart through the entrance, striking the cluster of bees direct, without touching any part of the hive. A bee that is heavily laden with honey will prefer to bump up against its fellows rather than anything else. With a deep entrance they soon learn the trick of going right through the opening and alighting on the bees.

Perhaps there are some to whom this may seem a little out of season, right in the midst of winter; but this is emphatically the season for getting things ready for next year. A hive that will not permit of a wide entrance for hot weather comes far short of being a perfect hive.

I would call attention to another thing, and that is, the sloping front of the hive-stand. In cool weather, bees will often fall quite a little short of the entrance. If a slanting alighting-board is provided they will crawl into the hive and be saved; otherwise they will lie out and perish. It pays well to have hive-stands, especially those with a sloping front. It is not necessary to have them made of first-class lumber. The cheapest kind of stuff will do. The alighting-board shown in this picture looks pretty shaky; but it is good enough, and better than a board perfectly smooth.

The value of a large deep entrance in the height of the season as a factor in discouraging swarms is too well known to be gainsaid at this day and age, so I will not discuss it at this time.



VERNON BURT'S HIVE STAND AND ENTRANCE.

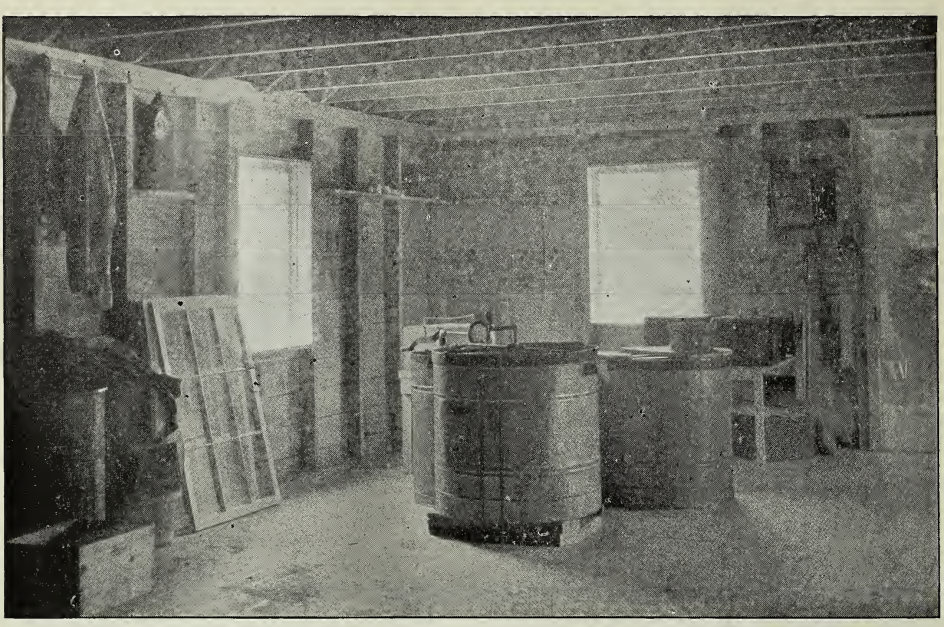


FIG. 1.—EXTRACTING-ROOM OF ALEXANDER'S HONEY-HOUSE; A PIPE UNDER THE FLOOR CONVEYS THE HONEY DOWN INTO THE TANKS BELOW.

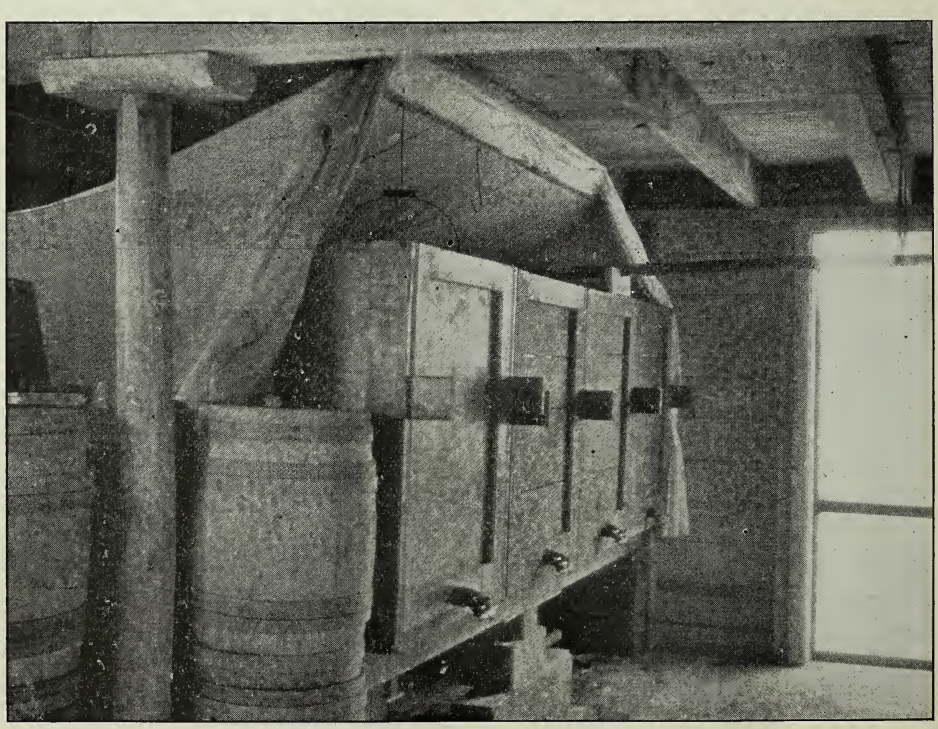


FIG. 2.—TANK-ROOM OF ALEXANDER'S HONEY-HOUSE; THE PIPE BRINGS THE HONEY FROM THE EXTRACTING-ROOM ABOVE.

AN ILLUSTRATED DESCRIPTION OF SOME THINGS CONNECTED WITH THE ALEXANDER APIARY.

Raising One's own Queens for 10 Cents Apiece; some of the Conveniences.

BY E. W. ALEXANDER.

When Dr. Lyon was here last summer he took a few photos of different things he thought would be interesting to the readers of GLEANINGS. In one of my late articles I spoke of our extractors and uncapping-cans standing so that all three deliver their honey into the pipe leading to our honey-tanks below.

In Fig. 1 you can see them in their place. The pipe is under the floor out of the way, and runs along through the top of the cellar into the tank-room as shown in Fig. 2.



FIG. 3.—FRANK ALEXANDER ADJUSTING THE ALIGHTING-BOARD TO A COLONY ON THE SCALES.

When we are extracting we put wire-cloth screens in all the windows and doors of this building, with bee-escapes in them. This keeps the building free from bees, and makes it nice and cool to work in. Before I leave this extracting-room I must speak of some of its convenient points. We find it very handy to store our hives of extracting-combs near the extractors at the close of the season, and then to have all those thousand and one things connected with the business kept separate and in their place so they can be got in a moment when wanted for use, and the whole thing near the center of the apiary. In this way we save many steps and much annoyance when in a hurry. Then it is such a satisfaction when we walk out and lock the door to know that our honey is safe from honey-thieves, and that neither rats, mice, nor even a honey-bee can enter the building when the doors are shut. This is one of the principal reasons why we put on a galvanized-iron roof.

We did not want any shingles warping or shrinking so bees could enter from above, for you undoubtedly know they are very annoying if they can find a place to enter and get at honey inside.

Fig. 3 shows Frank adjusting the alighting-board to a hive on the scales. Although this colony was not as strong in its working force as many others in the yard, still its average gain in honey during the August harvest was about 6 lbs. per day. We like to keep track in this way of what our bees are doing.

In Fig. 4 you have a view of the north end of the building as Frank is passing in a carrier of heavy combs. By pulling on the cord at the other side of the window it raises the slide door where the empty combs are, and he can take out a carrier of these in a moment. In Fig. 5 you will notice a carrier that has a covered top made of canvas in two pieces which can be opened from the center. This is handy if bees are inclined to rob, as it can be opened or shut quickly when putting in or taking out combs.

Fig. 6 is a general view of the northwest side of the apiary. I wish we could have a picture of the whole yard in one view; but it now covers so much ground that we can not unless we could get high above it.

In Fig. 7 you can see some of our queen-rearing nuclei. I now speak of these as having



FIG. 4.—HOW THE HEAVY COMBS ARE PASSED INTO ALEXANDER'S HONEY-HOUSE THROUGH A SLIDING DOOR.



FIG. 5.—THE ALEXANDER COMB-CARRIER, SHOWING CANVAS TOP SO ARRANGED THAT IT MAY BE OPENED AT EACH SIDE.

a bearing on that subject of overstocking. These nuclei have three combs each, size 5×9 inches, and about a pint of bees; still they fill their combs so full, like the one you see in Frank's hands, that it was necessary to extract them frequently in order to give the young queens a chance to lay after they have become fertilized, and this was done some time before our August harvest.

Now, when little nuclei of less than one pint of bees can fill up their combs with honey in this way when there is no special harvest on, and that in an apiary of 750 strong colonies like those you see in the accompanying picture, it does seem to me that this fear of overstocking was only imaginary. A few years ago when we thought our bees went only a mile or so from home to gather nectar, we had some excuse for believing it was easy to overstock a location; but as it is now, when we have an abundance of good proof that our bees will work to a good advantage on flowers five or six miles from home, and sometimes still further, it changes the whole subject. Just think of the millions of honey-producing flowers, when the weather is favorable, within a circle of ten or twelve miles in diameter. This is the turning-point of the whole subject—"When the weather is favorable." And when the weather is unfavorable for the secretion of nectar, it makes no difference how much bloom there is or how few colonies there are in the apiary.

In regard to these nuclei I spoke of above, we find them very useful. My son fixed up fifteen about the 1st of July last season, and by Sept. 10 we had taken out 63 choice laying queens from them to use in large colonies, besides some extracted honey, and the actual cost of these queens was not ten cents apiece.

We have tried many different sizes of combs for nuclei; but, all things considered, we prefer small combs, of which three will fill one of our standard frames; then when we put them in our nucleus-boxes we slide on a piece of folded tin so it makes a shoulder for the little frame to hang on. When we wish we can put a frame of these little frames in any standard hive, and have them filled with brood or honey; then the little frames can be put into weak nuclei if we wish, and at the close of the season these small combs with their bees, brood, and honey, can all be utilized in uniting with other colonies. I am sure that, if you will try this way of rearing surplus queens another season, you will be surprised to see how easy it is to have choice young queens on hand at a small expense, ever ready to use where occasion may require. If you expect to make a success of bee-keeping you must be on the watch to take advantage of all these little things.

Delanson, N. Y.



FIG. 6.—GENERAL VIEW OF ALEXANDER'S APIARY OF 750 COLONIES; TAKEN FROM THE NORTHWEST.

[So far as I know, the pictures here show the largest bee-yard and equipment *all in one spot* of any in the United States if not in the world. Every thing is done on a big scale from start to finish; then at the final windup the honey is sold by the carload.

It would be very interesting and instructive if every one of our readers could visit this yard; but I am afraid our friend Alexander would suffer immediate nervous prostration. As it is impossible to take our readers to this interesting spot, and physically impossible for him to entertain them, it is with no little pleasure that we are able

to carry the spot to them. You will do well to fix these pictures in your mind, for Mr. Alexander will have much to say about them in his future articles.—ED.]

WAX-PRODUCTION.

The Essentials to Success in the Southern States and the Tropics; the Value of a Shed over an Apiary to Avoid Stings.

BY W. K. MORRISON.

A GLEANINGS subscriber in Arizona asks me to give every detail of my system of exclusive wax-production from start to finish —no honey being wanted. Now, it should be strictly understood that the plans and practices of the tropics generally and the West Indies particularly will hardly fit so peculiar a climate as that of Arizona; yet a live bee-man who uses his horse sense freely can readily adapt this system to his own peculiar needs.

Wax-production can be followed with almost any sort of hive; but there is a great difference between the amount of work involved, as between a hive properly arranged for the wax business and one that is not. For example, I once came across a man in the West Indies who produced about 800 lbs. of wax per annum, using only box hives—i. e., kerosene-cases He lost about a third of his wax in his slumgum: but, what was far worse, he spent three-fourths of his time in labor that could have been avoided.

I sometimes read articles in the bee-magazines about wax rendering and refining which involve a great deal of painstaking work. It does not pay a live man to do such work. Better start right and make up your mind not to bother with old comb. Use only combs of virgin purity, and thereby enable yourself to attend to the wants of 500 colonies with no assistance whatever. The whole apiary may be converted into a sort of automatic machine. The sun will do the melting and bleaching. Careful attention to every little detail will save trouble later on.

For this work the ordinary eight-frame hive answers very well, but can be improved by using nine frames instead of eight. This will give a large force in a confined space. The bees will "boil over" when the brood-chamber is opened. Next, don't allow any drone comb in the brood-chamber. This is a vital point. The bees being deprived of drone comb below will build some upstairs on every favorable opportunity, even when very little nectar is coming in. Of course, a queen-excluder simply *must* be used—there is no way out of it; but you can ease the bees considerably by providing a small entrance to the upper chamber. Remember a hive so fixed is practically non-swarming, and this is the reason why the system pays—laborious work is practically done away with. Starters are used in the surplus-chamber; and as fast as the combs are made they are cut out, leaving not more than an inch as a starter. Don't attempt to use five, six, or seven frames in the super, as some recommend. That



FIG. 7.—A CORNER OF ALEXANDER'S APIARY SHOWING THE NUCLEI USED IN QUEEN-REARING.

would only add to the work—not help it. The bees may be assisted in various ways. One is, to screen carefully the hives from the sun. I prefer a long narrow shed every time, with the hives raised just a nice height for easy work. The shed should always run north and south so the bees will not feel the midday heat, but the morning sun will shine right on the front of the hives on one side—the eastern; and the western sun will slant its rays on the western side. By attending to this you will have a non-swarming apiary—something we have long desired.

A bee-keeper like the Arizona subscriber will have to get around very lively indeed to avoid getting honey, snatching out the nice white combs as fast as made. And here let me state you will get about three-fourths less stings if you use a shed. As a matter of fact, the bees seldom get into the aisle between the rows. Use very little smoke, and don't use a brush. In this way the bees will not resent your frequent visits. The best way is to "steal" the combs out, shaking the bees off with a good jolt. You will soon learn the kink. If you think the nights are too cold, use something to cover the hive, as a high temperature is necessary to effective wax-production. I think an incubator set at 85° F. would be a grand place for a hive of bees being run for wax. This is why the tropical bee-master can succeed so well in wax-production. In some parts of the West Indies the thermometer varies only a few degrees from day to day, say 87 at noon and 82 at night, and this practically all the year round. Arizona in some sections can do very well, however, as the bees are not incommoded by rainy weather.

When it comes to melting the wax, a solar extractor is probably all that is necessary in Arizona; if not, a tin mold set in hot water will answer very well.

If honey is desired, let the bees seal the combs nicely over, and, taking them off the hive, cut them out, letting them drop into a bag. Let the bag drain awhile, and then squeeze it down in a German wax-press. Anybody can see this does away with laborious work. I know some do not consider they are getting along if they are not working "like a house afire." This is not the way tropical people live. They have adopted the simple life. This is the plan of plans for out-apiaries, since there is absolutely no swarming if one keeps the upper chamber reasonably clear of combs.

It seems to me this is the plan for the Gulf States and California, as well as the West Indies or wherever the seasons are good and the markets far away. I am of the opinion, too, that it tends to produce better honey, as there is less handling and less encouragement to extract before the combs are fully sealed over.

If it is so the honey can not be sold to advantage, it may be fed back and converted into wax. For successful work in feeding back, a shallow hive and entrance feeder are required, otherwise there is too much waste. In feeding back dilute the honey with water.

THE YOUNGEST BEE-KEEPER IN PENNSYLVANIA.

A Composition Written by a Nine-year old Bee-keeper after Two Years' Experience, Who has been a Member of the National Bee-keepers' Association for a Year.

In a recent number of GLEANINGS I noticed an account of the youngest bee-keeper in Indiana. I am sending you to-day a picture of the youngest bee-keeper in Pennsylvania. He was nine years old last August, but he has been a member of the National Bee-keepers' Association for a year, and has been raising bees for two years. I inclose also a recent composition of his on bees. L. L. W. WILSON.

Hoyt, Pa.

BEES IN THE HIVE.

In the hive there are always more than 3000 bees, although I have a colony that has about 40,000 bees in it.

THE QUEEN.

The queen's business is to lay eggs. She



D. H. WILSON, A MEMBER OF THE NATIONAL BEE-KEEPERS' ASSOCIATION, WITH TWO YEARS' EXPERIENCE WITH BEES.

examines every cell that she wants to lay eggs in. She is very particular.

THE WORKER.

The worker's business is to feed the drones and the babies, build combs, and gather nectar from the flowers. The worker also feeds the queen. The worker is particular too. The bees will not stay in a hive that smells badly. In the fall the workers kill the drones.

THE DRONE.

The drone's business is to walk around in

the hive with his hands in his pockets and see what is going on there.

WAX.

Wax is made from honey. When the bee wants some wax for her comb she takes a sip of honey, then she takes a nap. When she wakes up she finds her wax-pockets full. But she is not surprised. She moistens the wax in her mouth. Then she pushes and pulls and pats till there is a comb.

COMB.

There is drone comb and worker comb. I think it is best to have hatching brood in all of your hives. I have seven bee-hives full of bees.

HIVES.

Hives ought to be made as well as they can be. You ought to use well-seasoned wood for hive-making. Make your hives very deep. Never have your hives right on the ground. Always have a box under the hive. Have your hives under a tree. A half-barrel shade does not do much good.

If your hive is being robbed, make the door smaller. D. H. WILSON.

[This is a better essay, certainly more correct in statement, than many of the published magazine articles on bees by professional writers who get their information solely from books. Our young friend has the advantage of them in that he is writing from personal experience. He indulges in a little "poetic license" in one or two places, it is true; but aside from these he is quite correct.—ED.]

FASTENING FOUNDATION.

The Groove-and-Wedge Plan for Holding Foundation in the Top-bars; a Simple Tool to Imbed the Wedge.

BY S. E. MILLER.

I have noticed in GLEANINGS that many of the readers have trouble in fastening foundation in frames by the wedge method. Many claim that the wedges fall out. You have told them reapeatedly that the wedge, in order to be effective, must be imbedded beneath the surface or level of the wood in the top-bar, but to the best of my recollection you have not given a simple and effective method whereby this can be done. I have tried driving them in, but that is far from being satisfactory. I notice that even some such men as Mr. Alexander recommend using melted wax and resin for fastening foundation to the top-bar. That is probably the best way when we are obliged to fasten it to a plain surface; but I do not hesitate to say that the wedge method, if properly done, is the simplest, quickest, and most satisfactory way of any that have come to my notice.

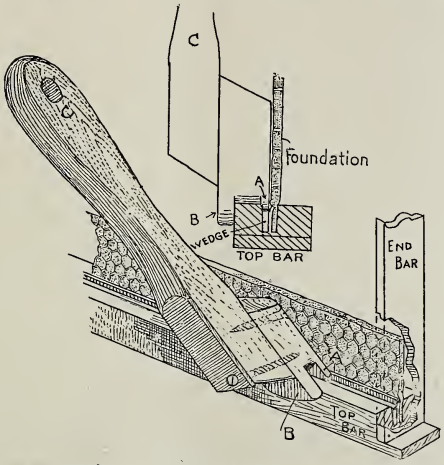
I am sending you a little tool of my invention, designed especially for imbedding the wedges. Before you pass judgment, and say a lot of things about it, try it according to directions given below. If you are too busy to leave your desk, have one of the boys bring you some frames, wedges, and foundation.



D. H. WILSON, THE YOUNGEST BEE-KEEPER IN PENNSYLVANIA.

DIRECTIONS.

Seat yourself on a high stool or chair at a bench or low table about as high as your knees (if you prefer to stand up you can use a higher table.) Lay the frame on the table in front of you, top-bar down, the one end toward you, and the groove for the wedge to the right. Place the foundation in the groove intended for it, and see that it is done right. Now place the end of the wedge in the end of the groove furthest from you (it is not necessary to start it in its entire length). Next grasp the tool with the end of the handle pointing toward you; that is, have the thumb neare to you. Place the tongue A on top of the wedge, letting the tongue B rest against the side of the top-bar to act as a guide. Now with a downward pressure draw the tool toward you and see how nicely the wedge sinks into the groove and beneath the surface.



MILLER'S TOOL FOR IMBEDDING WEDGES.

A FEW MORE HINTS.

See that the beveled side of the wedge is next to the foundation when you start it in. Remember that the best time to do this work is when the weather is dry. In the rain-belt all soft woods have a tendency to swell more than one might suppose during a protracted wet or damp spell of weather, which causes the wedges to become larger and the grooves smaller, and it is then harder to force the wedge into proper position. If the first draw of the wedge from end to end does not sink it below the level, repeat the dose, and do not be afraid to bear down on it. I do not claim that the work is child's play. In fact, it will tax the muscles of your arm rather severely if you work at it long; but you will get used to it after a while as the Dutchman said about the Irishman being used to hanging.

I guess you will ask why that offset in the tool. Why is it not made all in one piece? I will answer the question. That is to give room for the fingers when putting in full sheets of foundation, and I think it is better, even when putting in starters only.

If properly used, no more complaints of wedges falling out would be heard, even from Colorado or Arizona. I am satisfied that, with this little tool, I can put in the wedges and put them in to stay, faster than one man can properly put the foundation in the other groove. That hole in the handle is to hang it up by when through using.

Bluffton, Mo.

BEE DEMONSTRATION IN MEDINA.

Dr. Bigelow's Second Visit to Medina with the Schoolma'ms and Schoolmasters; why Bees will not Sting a Crowd of People when they will Attack Individuals.

BY E. R. ROOT.

Very soon after the big field meeting at Jenkintown, at which over a thousand beekeepers were present, we had another field-day on a smaller scale here at Medina, July 7, 1906.

On this occasion Dr. Bigelow, so well and favorably known to our readers, was the field marshal, so to speak, for he took charge.

He had been lecturing at the summer school at Wooster, Ohio, where schoolteachers from all over the country are wont to assemble. As the visit of a similar lot of teachers of over a year ago had been found so enjoyable as well as profitable it was decided to make another trip to Medina; and accordingly another crowd took the trolley and landed here about noon. The number



FIG. 1.—DR. BIGELOW LECTURING BEFORE HIS CLASS AT THE FIELD-DAY MEET AT MEDINA.



FIG. 2.—DR. E. F. BIGELOW AND HIS SCHOOLTEACHERS AT THE SECOND FIELD-DEMONSTRATION MEET AT MEDINA, JULY 7, 1906.

The view here shown, as explained in the text, represents one of the center yards at the home apiary of The A. I. Root Co., just adjoining their manufacturing plant. The upper portion of the picture shows how the individual hives are shaded by grapevines. As the leaves are present only during the hottest part of the year, when shade is needed, the full benefit of the shade may be secured at all other times. The entrances are gathered all about the hives without any reference to the location of the entrances. As the bees were working heavily on basswood at the time, the results might have been somewhat disastrous were it not for the fact that the bees on returning, seeing the surroundings to their homes utterly changed, were completely demoralized, bordering almost on a state of panic. So great was their consternation that not a person was stung, and scarcely a veil was used. Dr. Bigelow, a little to the right of the center, standing upon a hive, had told the teachers before they arrived at Medina that not one of them would be stung, and that he would prove it. The expression on his face betokens the supreme satisfaction of a man who can *truthfully* say, "I told you so."—ED.



FIG. 3.—DR. BIGELOW'S SCHOOLTEACHERS PUT TO THE TEST.

aggregated something like 150, and an inspection of the pictures will show that all were good-looking, especially the schoolma'ms. We had every thing arranged for their reception, and a special roped-off inclosure where Dr. Bigelow could illustrate his Educational hive, and his Pearl Agnes hive for the teaching of bee-keeping to children.

The crowd met at the office, where they were provided with bee-veils against an emergency. Then all went together to hear Dr. Bigelow's lecture, which was given on the north side of the yard.

Fig. 1 shows the group circled about the speaker. After a talk of fifteen or twenty minutes the crowd worked itself down into the heart of the bee-yard, and took entire possession of a hexagon; for it will be remembered that A. I. Root, when he originally laid out the home yard, had little portions grouped off the shape of a hexagon, in imitation of honey-comb.

The large engraving, Fig. 2, shows how the teachers mingled among the bees in this hexagon in front of the entrances of the hives, anywhere and everywhere to suit their pleasure. We had all our bee-boys in



FIG. 4.—ENJOYING THE SHADE OF THE BIG EVERGREEN WINDBREAK AT THE FIELD-DAY MEET AT MEDINA.

readiness to answer questions and to open up the hives and pass frames around to the teachers, so they could watch the bees to their hearts' content. Notwithstanding the aforesaid teachers were all supplied with veils, very few of these protectors will be seen. Dr. Bigelow had explained that the Root bees would not sting—couldn't make 'em sting. In proof of his statement he got on top of a hive, walked on it in an unceremonious manner, removed his hat and swung his arms, striking at the bees in the air. I began to be a little alarmed for fear the bees in the hive on which he was standing would make a regular onslaught, even if those in the air did not show fight. I accordingly elbowed my way up to him and suggested that he be a little cautious—that the Root bees would stand a good deal, but I did not think they would take kindly to what he had been doing; for a stampede of those pretty schoolmistresses was not to be thought of. "Your bees sting? No, sir, Mr. Root," replied the doctor; "can't make 'em sting," and he kept on with his arm work.

The air was full of bees, for they were busy at work in the fields; but seeing the crowds seattered around among their hives they were demoralized; and, as I have before explained, when the surroundings to their homes are entirely changed they offer no attack; in fact, it would be difficult to make any kind of bees sting under those circumstances, although I might hesitate to try the temper of Cyprians.

Dr. Bigelow will be seen in the large picture with head covered neither by hat nor hair, on top of a hive a little to the right of the center. Just back of him, and a little to his right, will be seen a man with a full beard, and arms folded. This is "neighbor H.," who, years ago, reared thousands of queens for us.

Dr. Bigelow was not satisfied with this demonstration of the tameness of the Root bees, for he said he wanted every teacher to have a frame of bees and to crowd over into the open space at one side of the hexagon. "Now, Mr. Root," said he, "give us another snapshot and we will give you a view the like of which the readers of GLEANINGS never saw before."

Fig. 3 gives the result. The doctor will be seen in the middle foreground, third row from the front, with a frame of bees balanced on his head. A few feet to his left will be seen one of the schoolteachers with a frame of bees on her head.

Now if the reader will look closely he will not see a bee-veil in the whole lot; and when it is understood that only a very few of those teachers had ever before been in a bee-yard one can have something of an idea of the confidence reposed by the teachers in Dr. Bigelow.

In this same picture, over to the left, next to the evergreens, and mounted on a high pedestal will be seen a Pearl Agnes hive. It is built in the form of a dwellinghouse, equipped with miniature frames and sections. This the doctor later described, and showed how it was used in instructing children in nature study.

Another view, Fig. 4, shows some of the teachers sitting on the ground in the shade of the evergreens that form a windbreak around this yard.

I doubt whether a crowd of ordinary people could be induced to go into a yard of bees like this; but an intelligent lot of people like schooleachers love to learn, even at the risk of receiving a sting.

Now permit me to say in closing that the same sort of demonstration could be made in almost any bee-yard in the United States. While the Root bees are very gentle (no question about that), yet those same bees will sting individuals when they would not think of touching any one in a general crowd, especially after they have become demoralized and have begun to hunt aimlessly for their entrances.

A CASE WORTHY OF ITS CONTENTS.

Some Needed Improvements in Honey-cartons.

BY DR. EDWARD F. BIGELOW.

Two new stores have recently been opened in the city where I live—a grocery and a candy-store; or, perhaps, to put it in more accurate detail, I should say that two old stores have been thoroughly refitted, restocked, and modernized under the guidance of up-to-date merchants. I often look with admiration at the show-windows and interiors of both stores.

The grocery makes a specialty of canned goods. I often think that it must be a pleasure to go shopping there. Such conveniences in the shape of bottled and canned foods and dainties should solve the servant-girl problem. If I were a housekeeper I would surely go shopping there. I believe I should bring home every day a basket full of those glittering packages, whose labels gleam in all the colors of the rainbow. As I possess a hearty appetite, most of the fruits and vegetables would be enjoyable; and even the things of which I am not especially fond would go down well when I recalled the vision of that attractive array on shelf and counter.

I have lost no boyishness, in that respect at least, to prevent me from sympathizing with the youth who expressed a wish some time to be clerk in a grocery, for then he could have all the nice things he wanted to eat. And I have even stronger sympathy with the Mr. Crothers who, in an article in a recent number of *The Atlantic Monthly*, speaks on "the ignominy of being grown-up."

Doesn't every one of us agree with the boy that a modern grocery is an attractive place?

But to return to the two stores that I have especially in mind. If the grocery is attractive, how shall we find words to do justice to the attractions of the candy-shop, the long marble counter with glasses and holders and fruit-dishes, the intricacies of the soda-foun-

tain, the tables and chairs in the rear so invitingly arranged, and, coming up on the other side, the long lines of show-cases with contents from eighty cents per pound at one end to ten cents at the other, the long counter of shallow pans of "fresh-made candy," fudge, peanut taffy, and even the molasses candy so dear to every youngster s heart? Oh for a word to express an inhaling, mouth-watering swallow! One has to swallow hard to choke down the temptation to sample every one. I wonder how it is that all the quarter-dollars do not go, instead of only one. But look at that pile in the window—"Special popular sale; twenty cents a box for to-day only." Why, the lithographing, the pink ribbon, and the picture of the pretty girl are alone worth that. But I manage to get away without spending quite all I have, but I admit it was difficult. But these boxes remind me of something that I forgot at the grocery store. Back I go.

"Say, Mr. Proprietor, I've a few sections of honey. Your store seems attractive, and I should like to put them on sale here."

"Well, I don't know that I can use them —not much call for honey. Got a big stock of other things on hand, and some honey too."

And he takes me behind the counter and shows a few plain sections in a wooden box. Not a carton, not even a label.

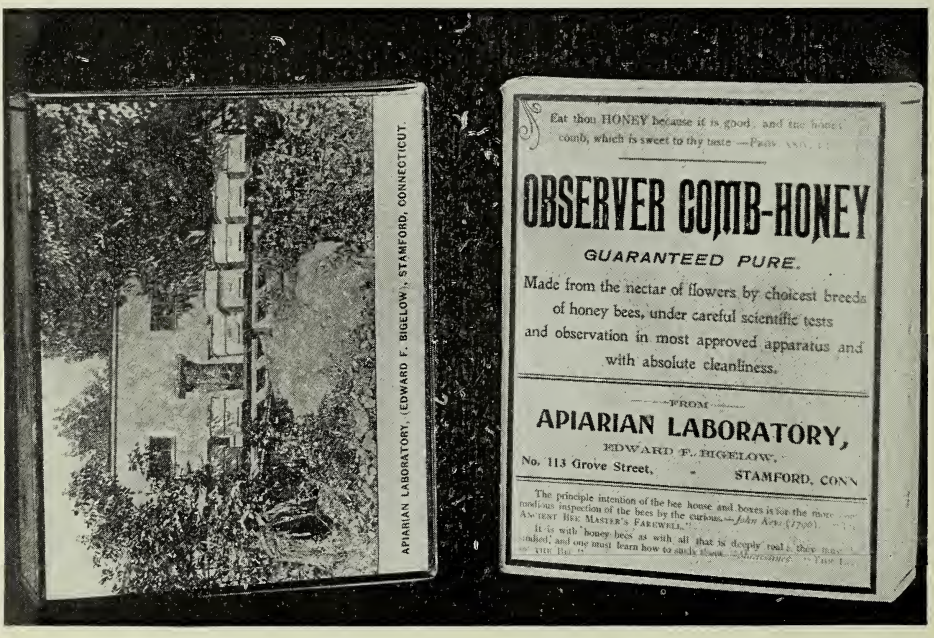
"Don't you have cartons?" I inquire.

"Oh, yes! There are a few in the bottom of that show-case."

And I look, and, what a sight! Plain thin strawboard, black printed, "Comb honey." Not a name of an apiarist on it, while the thin honey-soaked paper has burst and the honey is trickling out. *The entire stock is the least attractive of any thing in that store.* I feel indignant since plebeian onions, canned squash, and candy at twenty cents a pound, should so far outshine the classic luxury, the choicest dainty of all ages—*honey*.

As my bees have been kept for the purposes of science and education, and the sections thus far produced have been consumed at the family table or given to friends, I had not thought much of selling. Indeed, to be frank, I had become somewhat nauseated, in the three bee magazines of which I have been for years a regular reader, by the undue proportion of selling, by directions for making a market, and a lot of other foolish talk along that line to the exclusion of what seemed to me the greater interests of the bee. A few hives had been left free from experimenting, with triple supers on; and when I took off about an average of nearly one hundred filled and partly filled four-by-five sections from each one, I felt deluged with honey. It was an embarrassment of riches. The family table and near friends were "swamped," and so was I in the midst of my laboratory work with several hundred sections piled up in every corner and on every shelf. At the best my room for scientific paraphernalia was limited.

But I consoled myself. All that talk about "making a market," all that eruption of gas at the conventions "how to educate the public," will at last be of some avail to me. Those fellows will have long ago solved th



AN APPROPRIATE CARTON FOR COMB HONEY.



DR. BIGELOW'S COMB-HONEY CARTONS.

problem of selling honey. They at least know how to make it attractive. I recalled that I had seen in the catalogs something about honey-cartons. I resolved to get a few and put my sections in the two stores beside the glories of pickles, and in the presence of that redolent twenty-cent candy, for I regarded honey as both a staple for the table and a confection. I wrote to several manufacturers and obtained samples. Imagine my dismay! My superb honey in such a dress as that! Not one was fit to associate with cans of pickled beets and sweet corn, or boxes of twenty-cent candy with the pink ribbon and the picture of the pretty girl. I had more respect for the beets, the picture, and for my honey too, than to put it out in such a garb. "This kind of carton," I said, "belongs to the age of boot-box observation-hives."

Readers of this magazine know how I have contended for polished oak, the best workmanship, and the most ingenious devices for observational and experimental hives. The best seems to me not too good for honey-bees, and the same principle applies to their products. So I wrote to the manufacturers and told them plainly that I didn't regard their cartons as good enough—at least not for my honey. Doubtless they are worth all they cost, and for those who like that kind of carton it is doubtless about the kind of carton that they like.

But I wanted something that would cost more and be worth more. I wrote to manufacturers of apiarian supplies, and was told that those were all they had and after complaining that they were not appropriate dresses for good honey, I made up my mind that I would get butchers' straw paper and wrap up each section and tie with tow string before I would use those antiquated parodies of the box-makers with their smudges of printer's ink. I obtained the addresses of several manufacturers of folding cartons to be used for choice proprietary articles. The cartons which I finally decided upon cost only thirteen dollars for one thousand, especially made and printed to order. The labels for the top of the sections cost three dollars per thousand. Of course, additional thousands would be cheaper. The cartons and the labels are printed in blue and gold—blue the favorite color of the bee (ascertained by psychic tests), and gold, emblematic of their products. On the back of the carton is a cut of my apiarian laboratory, printed in blue—that color because I like to fancy that all the bees in the country would prefer to make their home here, or anywhere else where the bees (regardless of their products) are studied and appreciated for themselves.

On the next lot I shall have some embossing (costing about $2.00 per thousand more) and a violet ribbon (another color liked by the bees). I envy that candy-box—a pretty girl that likes honey and bees. Such a very choice carton would cost not over two cents apiece. I have found a ready market at thirty cents a section—five cents more than the regular market price.

Now, my big honey-man, or my little honey-man (and woman too), or you big manufacturers, do you really like my carton? I hope you won't, for then you will say that you "can beat him all to pieces," and you

will at once go to work and get up an *original* carton, and have it just as you like it.

To sum up, that is my whole contention. There should be no stock carton. Every apiarist should have a distinctive individual design with a cut of his apiary on the back. It is the comb honey in the markets without label or carton that makes all this talk about manufactured honey. It is the sheerest nonsense to try to annul the public impression that there is manufactured comb honey. The greater the impression the better for the apiarist who puts out his honey under sanction of his own name and reliability. Every purchaser of this known honey is the better pleased the more he thinks he has escaped the false.

May the day come, and come soon, when not one section or one bottle of honey shall be offered anonymously in the market—excepting, of course, those who are ashamed of their wares. In other words, the best is not too good for the honey-bee and her products, nor for the one who purchases, studies, or cares for either.

Stamford, Conn.

[Dr. Bigelow's points are well taken, especially his criticism of the ordinary stock comb-honey cartons that are on the market. Many cartons of special design have already been made or are being made. A new one shows a bee on the wing, carrying a section of honey in a neat tasty carton. By another year there will be other fancy cartons that are suitable for extra fancy honey. There is a fancy trade that does not consider price, but demands something that will at least compare favorably with the packages for putting up pickles, sweet corn, and the like. —Ed.]

CAUCASIAN BEES.

Mr. Benton's Trip Through Russia in Search of New Races; How this Trip is Regarded by the Foreigners.

BY A. E. TITOFF.

With great interest and pleasure I read the article about the visit of Mr. Benton to Savoy, France, which was translated from *L'Apiculteur* by our esteemed friend "Stenog," and which was printed in Gleanings for April 1. It was translated also into Russian. The bee-keepers of the world are greatly interested in the undertaking of Mr. Benton along the line of securing the new races of bees, and there are not a few remarks concerning it in the European literature on bees. The influence of his visit to the Caucasus is also felt in Russian literature. As the interests of the American bee-keepers are at present connected with the Caucasian bees I have decided to translate the article for Gleanings, and to inform you by this what the foreigners are saying about Mr. Benton, and also what they think about Caucasian and the other bees. The statement represents an extract from the letter of Mr. K. A. Gorbacheff, Tiflis, Caucasus, to the editor of the new Russian bee-magazine, Mr. M. A. Dernoff, which was printed by Mr. Dernoff in his magazine, and is as follows:

The well-known American apiculturist, Prof. Benton, was our guest in Caucasus. The aim of his coming here was the study of the Caucasian bee, and he visited all the chief bee-keeping regions of Eastern and Western Transcaucasus and the places lying near the boundary of Persia. Notwithstanding that, at the present time, traveling in Caucasus is connected with great difficulties and dangers, Prof. Benton, with the bravery and energy inherent in the Americans, and with the persistency of a Yankee, visited region after region, buying Caucasian queens and sending them, at times, to Switzerland to the apiaries of his friends. From there they will be sent to America next spring. Prof. Benton is enthusiastic over the Caucasian race of bees, and predicts of them a brilliant future.

The gentleness of Caucasian bees is well known, and the bee-keepers of America have also heard of it; but Prof. Benton was astonished at the gentleness of Abhasian bees. He had the opportunity of becoming closely acquainted with these bees in the apiary of the Caucasian silk-cultural station, Tiflis, Caucasus, and, according to the statement of Mr. N. P. Solavieff, could not provoke the Abhasians, even after repeatedly teasing them. It is a fact that the Abhasian bees, in respect to gentleness, astonish even the Caucasian bee-keepers who are accustomed to work with the gentle bees. As to our beauties, the red-banded Lencoranian bees, they have not attracted the attention of Mr. Benton as much as the Abhasians. He found them to be cross, and precisely the same as the Italians.

The Caucasian bees possess still another great advantage. It seems that their tongues are somewhat longer than the tongues of the bees of Middle Europe. So far as I know, Prof. G. A. Kozhevnicoff is studying the subject, and has made some comparative measures of the tongues of both the Caucasian and the European bees, although their experiments are not completed yet, as Prof. Kozhevnicoff had not material enough for them. Lately we hear, oftener and oftener, that the Caucasian bees in respect to the length of tongues, do not stand below the so-called "clover" bees, which are selected by the Americans. The bee-keepers of Poland, who have queens from our apiary, informed us that they were surprised to find the Caucasian bees gathering honey from the clover at the time when the native bees were not seen on their plants at all.

Every one who has bees in the mountainous regions of the Alpine and the Sub-alpine belts, is well aware of the fact that, in these regions, the flower of the mint tribe, papilionoceans and compound plants, the best honey-plants of the meadow, have their corollas more developed than the same plants growing in mid dle Russia. In these mountainous regions are scattered the apiaries of Abhasians and Lesgin in Dagestan (the names of the tribes of the people who have been occupied with bee-keeping from time immemorial). The hypothesis that the bees of these locations, owing to the splendid development of the corollas of the flowers of honey-plants, must have longer tongues, is well founded. We think that exact and more complete experiments with Abhasian and Lesgiorian bees will prove this supposition, which certainly has some foundation. K. A. Gorbacheff.

Los Angeles, Cal.

READING BEE-JOURNALS.

Why Even a Successful Man Needs to Study.

BY HARVEY SMITH.

"A man can not know too much about his own business." Bee-keeping is a business that is not learned in a day or a season. We very seldom find a helping article on the subject in any paper or magazine, and the "stuff" that is published in any other than a bee-journal is mostly along the line of the "comb-honey lie." It should not be a question of affording to take a bee-journal,

but, rather, can we afford to do without one? Answering that question for myself, I can not afford to take only one, but I take three journals, and I will soon add another to the list. We can never estimate the possible value to us of just one issue. I consider that the first number of GLEANINGS I received was worth at least the price of that paper for ten years from the value of just one article in that issue.

We have only to look around us a little to recognize the value of intelligent literature on bee-keeping. No doubt some of you are acquainted with men who keep bees in old boxes or logs, or possibly they have them in modern hives, but who get practically nothing out of the business from year to year. Just find out how many journals those men take. I sometimes think that such men keep bees for the excitement they get out of chasing and hiving swarms. They certainly do not get much else out of the business. If you talk bee-journal to them they will get off a little sermon about those follows who write for the journals having no other object in view than that of giving advice which will lead to disaster.

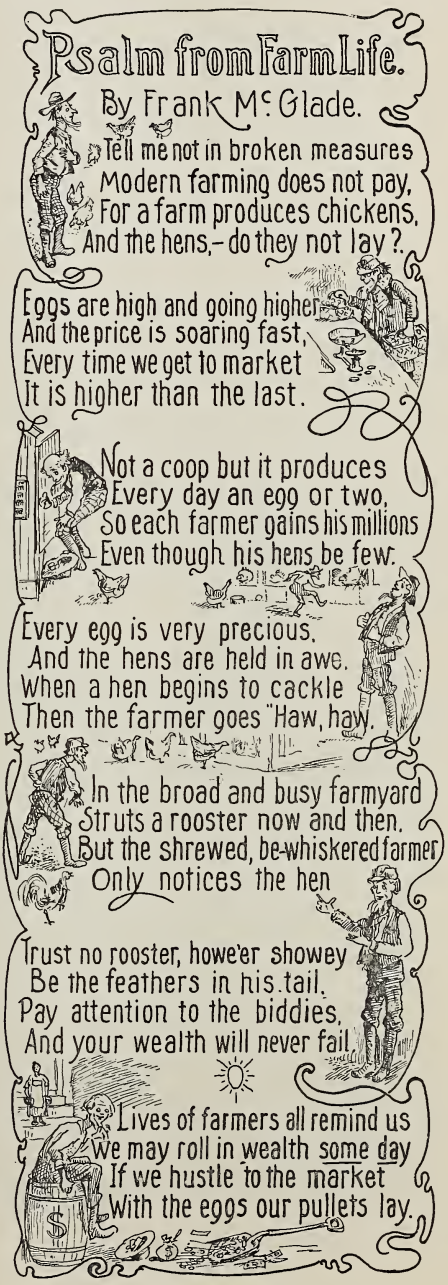
They will tell you that if those fellows have something good they are not going to give it to the public, as it would injure their business. I say, find such a man and you have a fair example of the man who would not invest a dollar in a bee-journal. Very rarely we find a man who has had very good success who does not think it worth while to subscribe for a bee-journal. He probably has nothing in particular against them; but so long as he gets a fair yield of honey, and a fair price for it, he is satisfied. He would probably not read a journal if he took one.

The man who reads a bee-paper finds out what strides other men are making. It points out to him the possibilities which lie in his power. He takes an interest in his business.

There is, however, a point to consider, other than that of learning how to get the most out of our business. Let foul brood or some other disease get a hold upon an apiary belonging to a man who knows nothing about such things. He will let his bees go from bad to worse. Diseased hives and combs will be left exposed, and this man's intelligent neighbor bee-keeper soon has his hands full. The man who will not read is a menace to neighboring bee-keepers.

Don't be afraid to read your bee-papers over several times. No doubt you have noticed that, after reading a fairly long article on some subject, your mind fails to grasp many good points that appear in a following article. Next evening, however, if you pick up your paper and read the article which the night before seemed uninteresting, it presents itself in a new light and you will get many valuable hints from it. No doubt many issues go on the file without our deriving much benefit from them. We may have read them through, but very often our minds and bodies are tired from hard work, or we may be so interested at the time in some subject foreign to bee-keeping that we fail to derive the good that we would were we to read the journals through several times. Our reading of bee-journals is very apt to resemble "cramming" for an examination. HARVEY SMITH.

Palermo, Ont., March 26.





A BEGINNER'S EXPERIENCE IN TRANSFERRING BEES.

After our interesting day at Jenkintown my husband transferred bees from an old box hive to a modern hive very successfully. I am sending the photograph that I took of the first step. Mrs. A. S. Lupton.

Shiloh. N. J., Oct. 20.

THE ALEXANDER METHOD OF BUILDING UP WEAK COLONIES; A COLONY CONSISTING OF HALF A PINT OF BEES MAKES 60 POUNDS OF SURPLUS HONEY.

After having read what A. J. Snowden wrote in regard to the Alexander method of treating weak colonies I decided to give my experience with it. I had one weak colony last spring which I thought would be a good one to work with. But one day while I was away from home one strong colony attacked it and killed all but about half a pint of bees and the queen. I did not know what to do with them. The queen was only six months old, and a fine one. I decided that I would try Mr. A.'s plan after all; so I put them on top of my strongest colony. In about a week I opened them and found them with a small patch of brood. I left them on top of the strong one for a month, then removed it. As a result, I secured 40 lbs. of fine clover honey; also some 20 lbs. of buckwheat. They are now as good a colony as I have.

Burlinton, N. Y. Leon Pashley.

HOW TO UNITE WITHOUT FIGHTING.

In Stray Straws, Oct. 15, you come so near my method of uniting that I give the way I have used for some time, my own get-up, knowing that you will improve on it. I make a frame of one-inch stuff, same size as hive. Tack common wire cloth on one side; put on hive, wire-cloth side down, thus leaving an inch space below the upper hive. Put the colony or nucleus on top; give ventilation to top colony by raising cover ¼ inch or just enough so the bees can not escape (if this is not done I always find a lot of dead bees); unite after two days in any way desired. The important thing seems to be top ventilation. It might not matter so much in cool weather or a very weak colony.

Springtown, Pa. Wilson Strock.



TRANSFERRING BEES FROM OLD BOX HIVES INTO NEW MOVABLE-FRAME HIVES; THIS ILLUSTRATES THE METHOD OF DRUMMING THE BEES UP INTO THE EMPTY BOX.

CAUCASIANS VS. ITALIANS FOR TOWN AND CITY LOTS.

I have had to move into town just adjoining a railroad station, and am afraid to move my bees into town. They are of a cross type of Cyprians, Syrians, and Italians all mixed up. They are of a rather excitable temperament, but great honey-gatherers. I can have an enclosure 30 feet back from the track, with a wall 14 feet high around it large enough to keep perhaps 50 colonies. I could even plant trees to make the bees fly high. They are leather-colored Italians, quiet enough to be handled safely in such a situation. I have had no experience with this class of bees except having seen an apiary of them just once, and I thought then that they might answer for keeping in town. How are the quieter strains of this class of bees as honey-gatherers?

If you think the Italians would not answer, how would Caucasians do? But first please let me know if the Caucasians are as bad breeders when there is no nectar coming in as the Carniolans are. Carniolans are altogether too much bent on brood-rearing, even when there is no flow of nectar, for my liking, consuming all their stores raising brood.

Galt, Ontario. W. D. HARRIS.

[I do not think you need be afraid to move your bees into town if you put them in the back yard inclosed by a high wall. While Cyprians, of course, are not so gentle as Italians, yet even these bees, with the proper management, could be put right down into town. But as a matter of precaution I would advise gentler bees. Some strains of leather-colored Italians are very much gentler, and practically the equal of Caucasians. The Caucasians are gentle, but in some respects they are not nearly as desirable as Italians. The Carniolans, as you say, are too much bent on brood-rearing out of season. The Caucasians, so far as I know, are not bad in this respect.

You should also be very careful not to let robbing get started; and when opening the hives use smoke, taking the precaution to blow a little into the entrances, and enough over the top of the frames to make sure they do not rise up and sting. Avoid opening the hives in cool weather or after a rain in warm weather. If any neighbor is canning fruit, request her to keep the doors shut or to use screens. It would be advisable to sweeten her up with a section or two of honey, to keep her from getting sour on your bees. Prevention in a case of this kind is a great deal better than cure.—ED.]

MORE PROOF THAT BEES TRANSFER EGGS OR LARVÆ; QUEEN-CELLS IN QUEENLESS COLONIES AT FIRST CONTAINED NO EGGS OR LARVÆ.

On page 934 Mr. Stachelhausen states that it is not probable that bees move eggs or larvæ. Now, while he has been handling bees a great many more years than I have, yet I think he has overlooked one fact; and that is, if you make a hive queenless the bees must move either eggs or larvæ in order to raise another queen. While I was reading July 15th GLEANINGS I made one of my hives queenless The next day they had started some 12 or 16 queen-cells, and I took great care in watching the cells, and in *not one cell started* was there an egg; but after the third day there was the small larva. Now, I know positively that there was not a queen in the hive, because I had taken her out and put her in another hive; also four of the cells were started next to and between the comb and frame in one end where there never was a cell, and where the queen never had laid. These four cells were the largest of any, and I destroyed all but those, and one of them has hatched. Now, the bees must have moved the eggs or larvæ to have gotten them in these cells. Last Friday I took the queen out of a hive and put her in another one. The hive she was in had combs just built, therefore white and new, and a great many eggs just laid in them. I put the cage, with the queen you sent me, in the hive, and today when I looked in the hive they had started six queen-cells: and by holding up to the light I could see very plainly that there were no eggs in the cells. Now, if the bees can not move the eggs how are they going to get the eggs in the cell?

In some of the former issues you speak of queen-raisers taking the eggs out with a spoon and transferring to other cells. Now, I am positive that the bees transferred eggs or larvæ in my hives, because I had just read Mr. Stachelhausen's article when I made my hive queenless, therefore thought that was a good time to test it and see if he was right, and found the facts just as I have written them. D. LABERGE.

St. Louis, Mo., Sept. 10.

CONCRETE SLABS FOR HIVE-BOTTOMS.

Concrete blocks are made in our town. I can get slabs made 16×32×3 in., with edges raised to allow a bee-space under the combs for about 20 cts. each. What would be the objection to using these slabs for bottoms? I should like to hear from people with experience. H. C. AHLERS.

West Bend, Wis.

[Concrete slabs would be all right for hive-stands, but rather too cold for bottom-boards. I should expect colonies wintered outdoors, placed on such slabs in this locality, even if in double-walled hives, to die before spring. —ED.]

THE ALEXANDER METHOD OF BUILDING UP WEAK COLONIES A GRAND SUCCESS EVERY TIME.

I can not overestimate the value of your paper, as one article alone saved me forty times the price of subscription—namely, the Alexander method of treating weak colonies in spring by putting them over strong ones. I consider this to be a grand success. As I succeeded in every case, I can not see how any bee-keeper can get along without a good bee-paper. D. DONALDSON.

Innisville, Ont.



THE ANTI-SALOON LEAGUE OF OHIO AND THE ANTI-SALOON LEAGUE OF AMERICA.

The Ohio convention occupied one day and part of another. The national convention at St. Louis occupied three days and a part of the fourth. In my report I *may* get the proceedings somewhat mixed up occurring in these two great conventions.

At the preliminary meeting of the executive committee in Columbus a delegation from the W. C. T. U. called on us with a petition to permit the women of Ohio to have a vote in deciding whether saloons shall or shall not be permitted near the homes. Their petition was most ably presented. One of them said she mentioned the matter to one of Ohio's great politicians. He made objection something like this: "Why, my good woman, the thing you ask for would banish the saloons from the great city of Cleveland."

She replied, "Why, my dear sir, do you think *that* would be a *calamity?*"

He replied, "Why, madam, it would be one of the *direst* calamities."

I suppose he meant by this that there are so many in Cleveland who can not live without alcoholic stimulants that a riot or civil war would be the consequence. Now, some of us who agree with him might have reason, or at least some reason for the above opinion were it not that the great city of San Francisco has just tried it *both* ways. I leave it to the readers of this journal if it has not been pretty well demonstrated that the "calamity" part came when they brought the saloons back to San Francisco, and that no calamity happened *at all* when they drove them out after the earthquake.

I am happy to tell you that our executive committee decided in favor of letting the women vote; and through the new Jones local-option law the women do not have to go to the polls at all, as you are perhaps aware. They simply have to write their names on the petition, yes or no, just as the men do, to keep the saloons out. Do you not think, friends, that the State of Ohio will stand a pretty good chance of being dry all through when we get such legislation?

I have told something about enforcing the search-and-seizure law here in Medina. A brother from some other State told of a similar experience. When the saloon-keeper was bidden to open his safe and show what was inside, he refused. The sheriff then sent for a big sledgehammer, and told the saloon-keeper he could have fifteen minutes to make up his mind. If he did not unlock the safe in that time he would demolish it with a hammer. Now, friends, here is a good object-lesson, showing well the attitude of the whole saloon-keeping fraternity. Perhaps I should say it illustrates the lack of sense these people show in law enforcement. At the end of fifteen minutes the saloon-keeper was still ugly and contrary, and his safe that might have been saved, and which cost him quite a sum of money, was broken open with the hammer, and quite a lot of expensive liquors were likewise found and destroyed.

The governors of two great States honored us with their presence at the Ohio convention. Now, friends, this means something. A few years ago our politicians, most of them, were afraid to come out in the open for the Anti-saloon League. In fact, some of the churches discussed as to whether it was a good thing to do, to open their doors to our people. Governor Harris gave a brief but most emphatic indorsement of our work; and Governor Hanly, of Indiana, gave us a speech that is going to be scattered by printed copies all over the United States, I hope. He told us something of the battles he had been forced to fight to accomplish what has been done in Indiana. When he first commenced law enforcement one of the millionaire brewers—a man who stands high in politics, and has his constituents all over the State, came to him and said, "Governor Hanly, you must not push this thing as you have been doing."

Governor Hanly replied, "And who are you, sir, that presumes to dictate what the chosen executive of the great State of Indiana shall or shall not do?"

The brewer replied as he rapped with his fist on the table, "Heed my words, or I will show you, sir, what I can do and what I *will* do."

I can not remember Mr. Hanly's reply, but it was something to the effect that they would have to get the *Governor* out of the way in some way or other before the thing the millionaire threatened could come to pass. After the conference was over, Mr. Hanly mentioned it to his wife. She said she feared he had been unwise to defy the power of a man so well intrenched as this brewer was. Several of his political friends felt the same way. Well, Governor Hanly said he never realized, until *eighteen months* had passed, how many obstacles this brewer and his legions could bring to bear. Again and again, he said, he was led to believe that Satan himself was leagued with those fellows, or else they never could have studied up with so much satanic ingenuity schemes to subvert the laws and to mislead good and well-meaning people. But with God's help he triumphed. He said, furthermore, that he had recently visited fourteen States, and he had reason to think that the rum power has been ruling and is ruling in those fourteen States very much as it was in Indiana. You see there are "bosses" in other cities than Cincinnati.

When Governor Hanly undertook to put on the lid, the mayors of fourteen large cities in Indiana told him it could not be done.

They said their policemen would not enforce the law, as they thought it not best. He told those mayors to go back to their respective cities and tell the policemen that the laws *must* be enforced or they would have a new set of police throughout. As a consequence, in a very short time those fourteen large cities were absolutely without *any* police protection. New policemen were put in their places who would and did enforce the law. I wish, friends, you could have heard the shouts and clapping of hands and stamping of feet while that great audience of several thousand cheered and encored Governor Hanly and the State of Indiana.

By the way, there were between one and two thousand delegates present at that Ohio meeting. County local option is what we are going to work for next; and when the matter came out in the papers it was one of my happy surprises to see some of the papers that have been severely criticising and objecting to the work of our league come forward and strongly indorse county local option. The *Ohio State Journal* is one of these Columbus papers. This is what they say:

> If there is any subject upon which home rule should be recognized as the governmental idea, it is where the home shall say for itself whether it wants the saloon by its side or not.
>
> We are in favor of that issue. We believe the people are ready for the conflict, and what this paper can do to help them to a signal victory, it will do.

I can not take space even to mention the great men and women who addressed us at that convention. Miss Lillian Burt in particular carried us all by storm by her eloquent and almost girlish enthusiasm.

So much has been said in the advertising pages of the papers about the food value of beer ("liquid food" as it is called) that Professor Higley gave us a discourse on the subject. He bought a glass of beer for five cents, and analyzed it. It did contain some food, it is true, but so little that a man would have to drink about *180 glasses* of it to get the quantity of nourishment he would find in five cents' worth of flour. The professor held up before the audience the amount of nutriment in dry form to be found in a glass of beer; then he held up two beautiful loaves of bread that were both made from five cents' worth of flour. The flour cost the same as the glass of beer. A good deal has been said in regard to the value of *moderate* drinking, giving to invalids a little beer every day as a tonic, etc. In order to test this part of it, a large number of puppies were selected, and half of them fed on good nourishing food. The rest of the puppies had more or less beer put in their daily rations, commencing with a very little, and finally giving them about all they could stand. Well, none of the puppies that had *any* beer *whatever* in their rations did any thing like as well as the "total abstainers." The beer-fed puppies, in fact, lacked vitality; they could not get up even a respectable bark—they just growled and grumbled their discontent. Some years ago somebody said that a little beer mixed with bee-feed would greatly stimulate the bees when you are building up colonies in spring by stimulative feeding; but as the matter was dropped, I think the experiment never proved to be a great success.

Now, the most of our speakers were great scholars and eminent orators; in fact, we had a collection of some of the best intellects that the State of Ohio affords—men of education and great ability in their respective lines. But one of my happy surprises came when the mayor of London, Madison Co., came on the platform. London is a town of about 3000 inhabitants, about 30 miles southwest of Columbus. As it had until recently 23 saloons, it has been a landmark for crime and outlawry of every description; in fact, it has been a regular rendezvous for gamblers for years past. The saloon element generally elected the mayor, and they always chose one that could be "manipulated" according to their notions and ideas. Through some oversight or mishap they got in Mr. A. T. Cordray as mayor about a year ago. Now, this man is not very much of a scholar, as I took it, or perhaps I should say he was not at the time he was elected. He was not particularly a temperance man, and, if I am correct, not a professing Christian. He had, however, thank God, a keen sense of right and wrong. Soon after he became mayor a man in town got drunk and pounded his wife. When sober he was a good law-abiding honest man—a good husband and a good neighbor; but when drunk he invariably began to pound his wife and children. On this occasion he came home, knocked his wife down, then put his great brawny knees on her chest and began pounding her in the face. She was a weak woman, and disposed to consumption. He pounded her face until it was unrecognizable, and he jammed her head against the floor until the scalp was loose on the back side. I might mention, incidentally, that, a month or two after this event, there was an addition to their family. Now, after the mayor had taken this man into custody he went around to those 23 saloons and told the proprietors they must not sell that man any more drink, explaining why; but he said that, in a few days, he had good reason to believe that every one of those saloon-keepers would sell that man, *or any man*, drink as long as he had a nickel to pay for it; and from that time to this he vowed war on the saloon business.

In that town of 3000 inhabitants, besides the mayor quite a police force was needed as a matter of course. He could not get his policemen to enforce the law against the saloon-keepers, and so he went around with them and showed them how. His wife complained that he was not getting any sleep at all, except in the day time. He said he was quite willing to work nights and sleep days for the sake of making it "hot" for the saloon-keepers. Well, he passed and enforced an ordinance compelling them to shut up at 10 o'clock at night and Sundays. He made them pull down their screens. He passed an ordinance prohibiting the use of music in saloons as a means of drawing custom. He

took away their tables, and tried to take away their chairs; but the "chair business" seemed to be too much, and he could not make it go. Of course, the good people of the town helped him. The town had been a great headquarters for gamblers; and the farming community about, lost much of its earnings, as what did not go into saloons went to the gamblers. Sometimes whole farms were lost and gained in a single night. This town has every so often what they call a "sales day," when cattle and horses are sold at auction. A big crowd congregates, and they generally have a "high old time" on such days. One sales day, while the saloon-keepers were reaping a rich harvest, it came near closing time. A delegation visited the mayor and offered him $50 if he would let them remain open till 11 o'clock instead of 10. Of course, he drew back on his dignity at this, but the spokesman explained that the $50 he had in his hand was for the benefit of the *town*. They could build "sidewalks," etc. The mayor replied, "Gentlemen, if you were to give me *$50 a minute* you could not stay open *one minute* more after the clock strikes ten. Go back, and prepare to shut up promptly or I will have you arrested and fined, every one of you. God knows I would have you shut up all day long and for ever if I could have my way about it."

Now, this mayor aroused more enthusiasm, more cheers, clapping of hands, and more amens than any great orator who spoke during the whole session. It reminded me of the beautiful but encouraging verse, I. Cor. 1:27, "God hath chosen the foolish things of the world to confound the wise; and God hath chosen the weak things of the world to confound the things which are mighty." I was on the platform not far from the speaker, and I had it in my mind to take him by the hand and bid him Godspeed, and to tell him I thanked God that he had been led by the Holy Spirit thus to consecrate his life to the work he was doing. But I did not say it. I could not get near enough to him. The audience climbed on the platform in a body, and they pressed on him from all sides. I heard one man say to him, "How much money will it cost us to have you come and talk to our people? Give us just the talk you have given here."

The mayor replied, laughingly, "Why, friends, I do not know how our town can spare me for a day; and I could not give my talk over again to save my life. I do not know what I have said. It was mostly in answer to your questions."

Now, friends, there is a great moral right here. A lot of mayors and other officials have the foolish notion in their heads that it will not do to enforce our laws—they would become unpopular, etc. I think this kind of suggestion comes from Satan. It is just the other way. Look about you and notice the men who have arisen suddenly just because they obeyed the voice of God rather than the suggestions of the evil one.

Just one thing more before I close, about the mayor of London. This man Cordray has a peculiar gift. He perpetrated some of his hugest jokes when he did not seem to know he had got off any joke at all. He stared at us with open mouth as if he were puzzled to know what we were laughing at. His very attitude and demeanor made that great audience cheer again and again; and the next sentence after he had the audience still so he could say a word, generally proved to be a huger joke still; and yet his face hardly softened into a smile. He is one of God's great men, and does not seem to know it. May his honest, earnest, boyish simplicity never be spoiled by the applause and praises of men.

The 23 saloons in London are now reduced to 17. He gave, as an illustration of the way in which intemperate men will use their wits to get drink, the following incident that occurred in his town: A certain man had exhausted his credit, and bartered all he could lay hold of. Then he went to a neighbor's of his and said that one of his hens had just commenced sitting, but he had no eggs to put under her. Would the neighbor kindly loan him a setting of eggs? After he got the eggs he went and traded them for whisky.

Joseph Clark, Secretary of the Ohio Sunday-school Association, sometimes known as "Timothy Standby," gave us a talk about Sunday-schools and temperance. In that talk he said:

"How many people in this building consider themselves members of some Sunday-school? Stand up." (Practically all arose.)

"The Sunday-school stands behind the Anti-saloon League. The greatest temperance organization in the world is the Sunday-school. I stand before you as the training-master of the Anti-saloon League of the future. I have had a vision. I had a vision of the day when the Sunday-schools will pass out to Ohio 300,000 boys who have been taught in our Sunday-schools, not only the principle of total abstinence, but also the right use of the ballot against all the foes of the people. God being my helper, if I am spared to serve ten years longer I intend to pass along to the commonwealth, ten years from to-day, 300,000 boys who will vote right."

THE NATIONAL CONVENTION AT ST. LOUIS.

When I first got off the train at the great union station in St. Louis I could not find anybody who knew where the First Presbyterian church was located. It was almost time for the first address, and I was very anxious. I thought if I could find a corner drugstore I could surely get some directions; but every corner in that city seemed to be occupied by a saloon, and every man on the street seemed to be a saloon frequenter. I hope St. Louis will forgive me, for it may be there are more saloons around that great station than anywhere else. I hope so. But nobody—not even a policeman—could tell me where the church was, and so I asked the street-car conductors. They looked a little ashamed of it when they had to confess that *they* did not know where the First Presbyterian church was. Neither could anybody on the car tell. In despair I did find a drugstore, and the obliging manager told me it was something over a mile away. But he wrote 4100 Olive St. on a piece of paper and told me to hunt up a conductor on a certain

car, and he would get me near there. If I did not find a Christian man on the street or in the cars I did find one, thank God, in one of the drugstores.

While in session at St. Louis we were interrupted by a telegram from Oklahoma, telling of a great victory. In fact, we had encouraging telegrams from several localities during our meeting. The State of Iowa could not do any better than to send a woman delegate, and I guess they were right about it; for I doubt if any man in that whole great State could have done any better than this Miss Harriet E. Yeater, a young lady less than 25 years of age.

Rev. G. W. Young, of Kentucky, has been called the Henry Clay of modern times. It was largely through his efforts that Kentucky, West Virginia, and Tennessee have been made almost dry. Yes, the region where "Kentucky whisky" has been so famous is now all dry except a few counties. In fact, it is getting to be so unsafe for the railroad and express companies to deliver liquors anywhere in Kentucky that the Louisville & Nashville and the Illinois Central have just asked Dr. Young to look over their list of dry towns and cities and correct it for them, and also to add any towns or cities that he knows of where prohibition reigns that is not on their list. I mention this as an evidence of wonderful progress, or I might say of a grand awakening, on the part of the railroad and express companies.

The brother who gave us a talk on Georgia hung a map up before the audience, showing the dry counties white and the wet ones black. Several black spots had been cleared off during the past year: "and," said he, "friends, we are still at it. We are growing better and better every day. Yes, thank God we are growing whiter and whiter every day."

Now, friends, wherever this journal goes, how is it with you? Are *you* growing better and better every day? and is your city, county, or town getting "whiter" and "*whiter*" every day?

Rev. Mr. Folk, brother of Governor Folk of Missouri, told us that Tennessee is almost dry—in fact, all but eleven cities, and these cities will *soon* be made "white" through God's providence, thanks to the work of the Anti-saloon League.

Judge Ben B. Lindsey, of juvenile-court fame, from Denver, Col., was one of the great speakers of the occasion. He was not a great orator, but what he has done and is doing for the boys is where the "great" comes in. Like the mayor of London, of whom I have spoken, he was not particularly a temperance man, nor perhaps prominent as a Christian worker, until he began to discover the injustice that is being done to childhood, especially in our large cities. I will give two incidents:

One morning a mother came to his office in behalf of a little boy who had been arrested with a crowd of other boys for drunkenness. The mother said, "Judge Lindsey, you may not think it possible, but this boy has been kneeling at my knee and saying his little prayers every night right along. I did not think it possible that he could do any thing wrong deliberately, and especially a wrong like this."

The judge promised to investigate. He gained the boy's confidence, and the boy told him the whole story. A neighbor's boy had been in the habit of going to a certain saloon to bring beer in a little pail for his father. As this boy was a constant visitor, the saloonkeeper, without hesitation, gave him a bottle of whisky when he laid down the price of it. The boy took the bottle out back of the schoolhouse to a lot of other boys, and dared them to take a taste of it. How many young boys are there who would not hesitate when "dared" by the other boys? The consequence was, they took a drink all around, and then took some more. Finally a policeman arrested the whole gang and shut them up for drunkenness. Judge Lindsey remonstrated with the father of the boy who had been in the habit of sending him to a saloon; but the father insisted that it was his right, saying that, when he came home tired out, a drink of beer "rested" him better than any thing else. The judge made investigation to see if there was no law or ordinance forbidding the sending of young boys into saloons for a pail of beer. He said to that great audience, representing almost every State in the Union, "How many of you have laws or ordinances in your own cities forbidding boys from going into saloons for a pail of beer?" Not one replied. He went on:

"I venture to say the city of Denver has the only law of this kind in the United States; and it did not have that until I brought it about. The saloon-keeper and the father who sent that boy to the saloon were the ones to be arrested, and not the comparatively innocent boy," said the judge. The second incident was something as follows:

One morning one of the Denver papers came out with big headlines reading, "A Boy Bandit," narrating how a boy in his teens had held up and robbed a man. The judge dropped his work, went down to the prison, and found the boy handcuffed. He was a flaxen-haired boy about fourteen or fifteen years old; and instead of being a tough, equal to the task of holding up a full-grown man, he looked like a boy who would not harm any one. His name was Christopher. The judge could not get him to talk until he had sat down and urged him and won his confidence. The boy supposed that, of course, the judge came there to get him sent to the penitentiary or something of that sort. The boyish story was something like this: He and some other boys were having fun, as boys do, when a couple of men came along through a deserted alley, so full of drink they could hardly stand up. This boy Christopher had a piece of broom-handle in his hand; and while one of the men was staggering, Christopher put this broom-handle between the man's legs in such a way as to trip him up, and over he went. He was in just the right stage of intoxication to fall into a drunken

sleep, which he did. While he was asleep the boys got into his pockets and took what little change he had. That was the whole of it. Christopher was not a bad boy at all. He was simply full of mischief, and was not old enough to realize that he was committing crime. So much for the boy bandit of the newspapers. Christopher and the other boy are now among the judge's very best friends and helpers. With the assistance of his boys in the juvenile court, Judge Lindsey has prosecuted more saloon-keepers and other criminals than the police have succeeded in roping in within the past twenty years. You have probably read about the work, in the magazines. The judge told us about one particular boy whom he called "Mickey." He is captain of the newsboys' baseball team of Denver. Well, Mickey's team had been winning all the games for a year past. One day the judge asked him how it came about that he and his team were making such continuous victories. The boy replied as follows:

"It's like dis, Judge. You see, half of dese kids is Irish, and de odder half is Jews; and when de Jew kids and us Irish kids git togedder, we whips every ting dat comes down de pike."

The judge said, in closing, "Now, friends, we want to learn a lesson from Mickey. When the Anti-saloon League, the W. C. T. U., and the Prohibition party and all other temperance organizations get together, we 'whips every ting dat comes down de pike.'"

John G. Woolley, of the *New Voice* and of the Prohibition party, gave us one of his grandest speeches, and something like 5000 people turned out to hear him. This address was given in one of the great beautiful Methodist churches. While I think of it, St. Louis has some of the finest churches I ever saw in the United States; and the first Presbyterian church, when I first came to it, I found to be about the finest and most convenient I ever saw; in fact, it was a revelation to me of what a church edifice *can* be. Woolley said it rejoiced his heart to see the number of people who are voting for good men without voting for any *particular* party. The Ohio Republicans had recently voted in a Democratic Governor; and things of a like nature are going on all over this land of ours. He suggested that, while both Democrats and Republicans were looking for good men, they would do well to glance occasionally over into the Prohibition party, and see whether there were not some to be found *there* also.

Of course, a photographer was on hand and got us all out in front of that beautiful church to have our pictures taken. While arranging things and the people, he asked Woolley if he could not look a little pleasanter. Woolley replied that he "did not know how he could *consistently*, because he was a *Prohibitionist*." By the way, some of my friends keep throwing it up to me every little while that I am not voting as I pray. Why, my good brothers and sisters, I rejoice that I stand so close to Bro. Woolley, or he stands so close to me (I really do not know which), that we can *almost* walk together and *vote* together on every matter that comes up. God bless Bro. Woolley.

At one point in our program one of the great speakers failed. Dr. Howard Russell was kind enough to mention that, under the circumstances, we should be glad to hear from a great and good brother from away down in Maine, who had in a quiet way helped the cause of temperance perhaps almost as much as any other man in that region. He had done it by furnishing funds to help things along, when that seemed to be the great thing lacking. Dr. Russell then made me shake in my shoes by saying that, after this good brother had spoken, they would like a word or two from your humble servant, A. I. Root, who had helped the Anti-saloon League from its birth up to its present proportions, in a like manner. The thought of standing on the platform before a convention of the educated D. D.'s and LL.D.'s and the great orators together from all over the United States, made the cold chills run down my back for a while; but I prayed God to help me to say something that would help the work along; and if anybody should care to know just what I did say I will try to write it out some future time for these columns.

I hope most of you have heard Dr. Chapman, or "Old Father Eloquent," as he is often called, of Los Angeles, Cal. If you have not heard him, you are likely to hear him soon in connection with his great temperance speech called the "Stainless Flag." He gave it first at our Ohio convention, and then again at the St. Louis convention; and it is, in my opinion, a second "declaration of independence," and perhaps not second in importance to the one we read over so reverently and love so much. It is a declaration of independence from the domination of the liquor-traffic. It aroused so much enthusiasm that, as soon as he closed, a man rose up and said that a lady by his side would give $100 to have it printed and scattered broadcast provided her name was not mentioned. Similar amounts followed rapidly. Well, I was feeling just as the lady did, and I finally got up with the idea in mind that I would furnish a large number of the pamphlets if they would let us print them on our new large printing press just installed. I intended to give about the same amount that the lady did—$100; but under the excitement of the moment I somewhat recklessly made a blunder in my figures. I said I would print *one hundred thousand* if the Anti-saloon League of America would see to it that they were put into the hands of people who would read them. Well, this proposition or donation was received with such bursts of enthusiasm that I began to think that may be I *had* "put my foot in it," and I meditated correcting the matter; but just then Howard Russell got up and said, "Friends, I am afraid we do not all realize the magnitude of Bro. Root's offer. Why, it really means something like $1000."

The clapping of hands, and the amens and the shouts were then even still greater; and when I thought of checking all that enthusiasm by telling them that I meant only *ten* thousand instead of one hundred thousand, my courage failed me. After I arrived home I told the boys the predicament I was in; but they just laughed at me, and said they would help me out. Mr. Calvert suggested that 30,000 of the 100,000 could be furnished by printing the speech in GLEANINGS; and then I thanked God to realize that it is really in our power to put such a paper into the homes of 30,000 people where it will be pretty sure to be read more or less. Howard Russell made a further motion that, when we got enough copies of the Stainless Flag printed, the United States shall appoint a certain Sunday for temperance, and call it "Stainless Flag" Sunday. The pastor of every church shall be desired to read over the speech carefully, present it to his people, then have the ushers hand a copy of the speech to every one in the audience as the congregation passes out. The sum of $2500 was raised for this purpose in less than fifteen minutes, and there is very little doubt that the money to furnish half a million copies could be raised without any trouble. I will not tell you any thing about that speech now; but when you get an opportunity to read the Stainless Flag, go over it thoroughly and carefully "Stainless Flag" Sunday will probably be the Sunday preceding the Fourth of July, 1907. And, dear brothers and sisters, it looks now as if the time were near at hand when the stars and stripes that float over our heads in this great republic shall indeed be a "stainless flag," unstained by any direct or indirect complicity with the liquor-traffic.

Before closing I feel that I must express my thanks to our excellent presiding officer, Bishop G. M. Matthews, of the United Brethren Church of Chicago. Bishop Matthews is one of the kindest, most genial, and most Christlike or Christianlike men I have ever met in my life. He taught us one thing that I think would be a benefit at our bee-keepers' conventions. With that great audience of men whose time was exceedingly valuable it was of the utmost importance that no time be wasted. One of his short cuts to save time was to get rid of things that came up, with as little red tape and parliamentary machinery as possible. For instance, some brother would make a suggestion, and he would add, just the instant the brother sat down, "Friends, can we not all agree to this so as to get on with our regular business?" and if the response was agreed to, we pushed right on to something else. In this way a great number of things that might have provoked a long discussion were pushed along out of the way, and everybody was just as well off, or perhaps better. He constantly impressed on every one the importance of getting through, and giving each delegate from the various States a chance to make a report of ten minutes.



BUDDING APPLE-TREES.

Years ago an aged bee-keeper who was a lover of apples showed me how to bud apple-trees. I had almost forgotten about it till last August, while on a visit to our Ohio Experiment Station, where they showed me a new early apple. It was about the size of and somewhat resembled the Red Astrakhan, although not nearly as tart. But I decided at the time that it was the "very nicest apple I ever tasted in my life." Perhaps you have heard me say that before. But this for the time being seemed to eclipse all others. I was told that no trees are yet for sale by the nurserymen; but I was permitted to cut off a little twig of the young tree. It had just commenced bearing, if I am correct. I took that twig home and went to some trees in our dooryard and proceeded much in the usual way of budding peach-trees. I made a T-shaped cut (or, rather, two cuts) on a thrifty twig or limb, raised up the corners in the usual way, then with a very thin-bladed knife took a slice from my choice twig so as to cut out a leaf-bud, taking a little of the wood right under the bud as well as the bark. This bud was then pushed under the corners of the bark where I made the two cuts and the top cut off squarely. Then I tied it up with woolen yarn, as that is better than any thing else because it will stretch if you should forget to take it off at the proper time. I set three buds in this way; and as I soon left home the matter was forgotten till to-day, Dec. 1, when I went out and took off the woolen yarn, and found every bud had taken perfectly; the wound had healed up well and sound, and I have the promise of this new fruit a good deal sooner than if I had purchased trees at the nursery.

Now, there is one feature about this manner of budding that greatly pleases me. Whenever you find an apple-tree that bears apples that suit you, especially early apples, at just the time when apples are ripe, do the budding. You do not have to have any wax, nor any tools, except a sharp-bladed penknife and a little woolen yarn. The bark of an early apple-tree will always raise nicely when the fruit is ripe, so far as my experience goes. I hope our friends at the experiment station will be able to give me the name of this beautiful new apple when they see what I have written about it.

SUCCESSFUL MUSHROOM-GROWING.

Friend Root:—On page 1453 you ask about successful mushroom raising. This locality is about 20 miles from Philadelphia, and one of the most succeesful districts for mushroom-growing in Pennsylvania. The land being used for dairy farms has been heavily manured, and seems to be adapted to mushroom and carnation growing. There are within five miles of my home probably thirty mushroom-houses, built expressly for the growing of mushrooms, and holding from five to twenty-five carloads of manure each. There are many farmers who raise them in small

buildings, and in the cellars under their residences. One man in the neighborhood has been in the business four or five years, and has not yet had a poor season. From the first house he filled this fall, holding six carloads of manure, he cut 350 lbs. in three days and received 80 cts. per pound for them. All the houses are built above ground.

One of our neighbors has about 40,000 carnation plants in his hothouses at present. Some of the greenhorns here have as good success as the experts. It seems to be due to the nature of the soil, in this locality. H. P. Faucett.

Brandywine Summit, Pa., Nov. 26.

Friend F., we are all exceedingly glad to learn that mushroom-growing is a success, at least in some places, after all; and one of the encouraging things about your report is that the greenhorns, as you call the novices, are succeeding about as well as experts. I hope to be able to make you a visit in the near future, and write the matter up for the benefit of our readers who are following high-pressure gardening.

J. W. DAY, THE AUTHOR OF THE TOMATO-BOOK, AND WHERE HE LIVES.

Our older readers will remember my description of my visit to friend Day when the first edition of the tomato-book was sent out. During the correspondence that was called forth in preparing the second edition of the book just out, friend Day sent us a very nice photo of his home as it appears at the present time, and we submit it to our readers.

You will notice that our friend and his good wife have an eye for flowers and a handsome dooryard as well as for fine peaches and choice tomatoes. The vines in front of the porch are not connected directly with the porch. In fact, some of us know by experience that such heavy foliage is detrimental to the woodwork. They are arranged on a trellis several feet in front of the building. In regard to the picture, friend Day sends the following description of it:

Friend Root:—My wife says the vines on the arches in front of our house, beginning at the left arch, are variegated hops; on the second side are some kudzu vines; on the third and fourth are white moon-vines; fifth and sixth arches are blue moon-vines with some Madeira-vines. All these vines are annuals.

The two beds of flowers in front of the house are round, and about 16 ft. in diameter. The center set are three dwarf cannas of different colors; around this is a band of salvias, then geraniums, then pinks and carnations, then a band or circle of ageratums; and last, or outside, are verbenas of all colors. We endeavor to have the tallest flowers in the center, and the lowest at the outer edge. This exposes every flower, and all these flowers are constantly blooming from early spring till late in fall. The tall trees around the house are black locust. We now have lightning-rods on the house. The arches stand four feet from the porch, and are about 30 inches across. The lawn is mostly Bermuda grass.

Crystal Springs, Miss. J. W. Day.

I am glad to know the kudzu vines do better in the South than here in Ohio. Our readers may remember I mentioned this some two years ago. The plant grew so rapidly that we called it "Jack's beanstalk." In our locality none of them lived over winter, although they made an astonishing growth during the first summer.



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These are the same make of spoons sold on the World's Fair Grounds in St. Louis, at $1.00 and $1.25 each, and we propose to make every lady reader of "Gleanings in Bee Culture" a present of a full set of six for which thousands of visitors paid $7.50 on the World's Fair Grounds.

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Please send me the box containing eight cans Mary Elizabeth's Baking Powder and one set, six (all different) Louisiana Purchase Exposition Souvenir Spoons as advertised in "Gleanings in Bee Culture," for which I agree to pay you $2.00 on receipt of the goods if they are found (after examination) to be as advertised.

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Town_____ P. O. Box or Street No._____

The Illustration but Faintly Portrays the Beauty of the Spoons.

The handle of each spoon is embellished with the head of President Jefferson, a French and an American flag and other cabalistic designs commemorative of the Louisiana Purchase.

In the bowl of each spoon is embossed a reproduction of one of the principal exposition buildings. Each spoon shows a different building, viz.: Electricity, Mines and Metallurgy, Liberal Arts, Machinery, Horticultural and the United States Government Buildings.

The workmanship on these spoons and materials used are vouched for by one of the largest manufacturing silversmiths in the United States.

The Historic Value of the Spoons.

The great Louisiana Purchase Exposition, the most stupendous collection of the works of modern man and the relics of his savage ancestors is a thing of the past—the glories of the Exposition but a memory. Already your friends and your children look with eager interest on every memento of what in all probability will be the last of the Great World's Fairs. Recognizing this, we have purchased from one of the largest manufacturing silversmiths in the world a large supply of the official souvenir spoons (full tea size) which we propose to distribute (in sets of six) **absolutely free** to the users of Mary Elizabeth's Baking Powder.

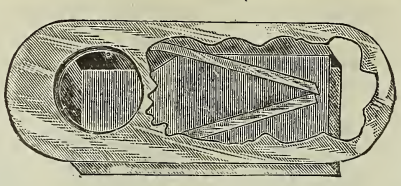
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MARY ELIZABETH'S BAKING POWDER CO., Shelbyville, Ind.



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PRICES

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They are perfect in action.—British Bee Journal.

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This number of the Review contains more unqualified praise of the Porter bee-escape than any other issue has ever contained of any other implement; but so long as it is deserved, who cares?—Bee-keepers' Review.

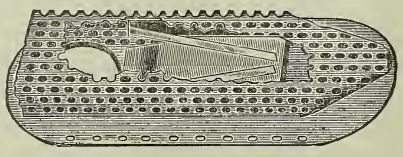
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Flange-cups, waxed, 2c each; per 100...	1.75	.14
Grace Cell-compressor, each	1.75	.14
Grafting-needle, each	.15	.01
Grafting-plug, each	.10	.01
Grafting-stick, each	.10	.01
Holding-frame, each	.10	.05
Incubating-cage, each	.35	.07
Double Mating-boxes, complete, $1.00; 10	7.50	
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1 Needle, 1 Cell-stick.

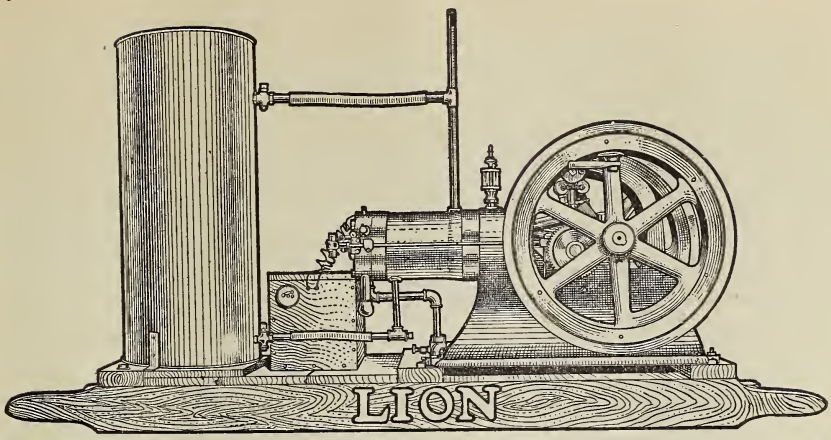
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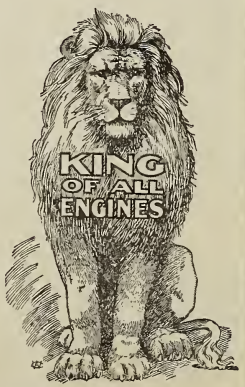
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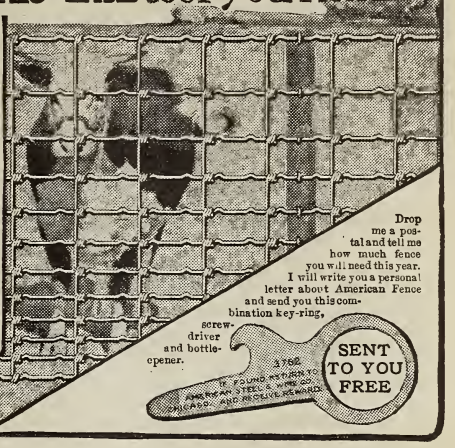
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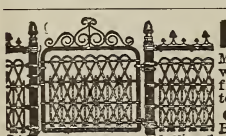
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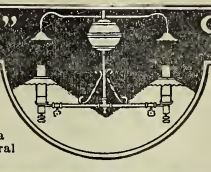


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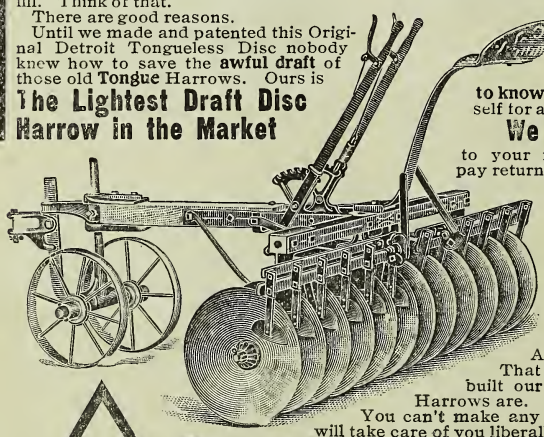
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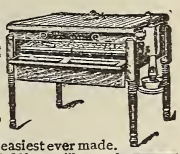
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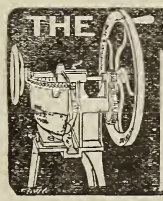
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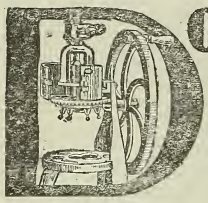
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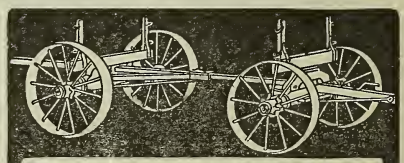
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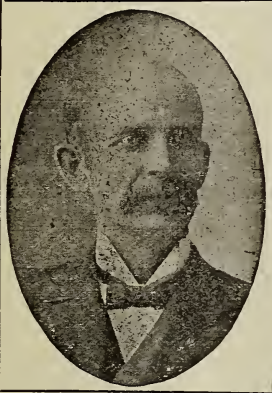
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NICOLETT ISLAND NO. 20. John Doll & Son, Proprietors. **MINNEAPOLIS, MINN.**

BEE - SUPPLIES

Best of every thing needed.
Big Discount from now to April 1st. . Catalog free.

C. M. Scott & Co., Indianapolis, Ind.
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PATENTS.

Twenty-five Years' Practice.

PRINDLE & WILLIAMSON,
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Patent practice in Patent Office and Courts.
Patent Counsel of The A. I. Root Co.



Long Advertising

Twenty-seven years ago the first patent bee-smoker surprised bee-keepers. The Bingham Smoker patented improvements are dated 1878, 1882, 1892, and 1903. They always please; they always sell. For October orders we discount 6 per cent; any number, any size, delivered any time. . . . . .

T. F. Bingham - Farwell, Mich.

North Texas . .

. . Bee-keepers

will find Dallas the best point from which to purchase supplies. We have a carload of ROOT'S GOODS IN STOCK, and sell them at the Factory Prices. Don't forget that we can furnish any thing in the way of Field or Garden Seeds, Plants, and Poultry Supplies. Our large illustrated catalog for 1906 free on application. Mention GLEANINGS when you write. . . . . .

Texas Seed and : Floral : Company

Dallas, : : : : : Texas

Northeastern and New England

BEE-KEEPERS

Order goods now. Don't delay. Have them ready when you need them. We keep a full line in stock at Medina prices. Save both time and freight by ordering of us. Beeswax wanted. Bees and queens furnished in season.

J. B. Mason, Mechanic Falls, Maine

MANAGER OF THE A. I. ROOT CO.'S N. E. AGENCY

Ohio and West Virginia

BEE-KEEPERS

— Order —

Root's - Goods - from - Zanesville

Nine railroads, Muskingum and Ohio River steamboats, and all express companies, insure a saving of freight and time. . . . . Write now for catalog and special discounts.

E. W. Peirce, Zanesville, Ohio

HONEY-JARS

No. 25, with burnished cap, heavy clear glass, per gross, $5.00; 3 gross, $13.50.
11-ounce nickel-cap jar, gross, $4.00; 3 gross, $11.00.
1-lb. square jar with cork, gross, $5.00.
Heavy cartons, $5.50 per M.
Italian queens, 75c. Catalog free.

I. J. Stringham
105 Park Place, N. Y. City
Apiaries at Glen Cove, L. I.

Canada : Distributors

for

Marshfield Manufacturing Co. Beeware

of Wisconsin

Hives, Sections, Shipping-cases, all Beeware. None better. . . Sample sections sent free.

N. H. Smith, Canadian Agent
Lock Box A, Tilbury, Ont., Can.

BANATS.—Before you buy imported Banat, Italian, Carniolan, Cyprian, or Carinthian queens for 1907, write L. A. LAWMASTER & SONS, Upper Sandusky, Ohio.

When a Thing Needs Doing

NOW is the time to do it. How about those worthless queens? Will you tolerate them for another season, when the best of stock can be obtained so readily? Laws' bees and queens are bringing the best of reports. I could fill many pages of testimonials, but give you only one. Mr. T. P. Robinson, of Bartlett, Texas, says:

"Dear Sir.—The car of bees shipped June 20th are now all safely landed, and I have overhauled the entire lot. The bees are from 25 to 40 per cent better than contract, and you ought to hear my wife's exclamations of delight at seeing those fine yellow bees so quietly nestle between the combs at the very approach of smoke. I can certainly recommend you. . ."

Leather and Golden Italians, Holy Lands, and Carniolands—single queen, $1.00; six for $5.00. Quantity lots, prices on application.

I also manufacture the Hoffman frames, both new and old style, at $16.00 per M; single-story eight-frame hive complete, 75c; 1½-story for extractor, $1.00. Price list on application.

W. H. Laws, Beeville, Bee Co., Tex.

Queens from 50 Cents Up!

Bred from Root's Imported Italians. Write for prices, stating wants. . .

C. M. Church, Arnold, Pa.

Something New in Honey-jars...

Cook's Square Jar combines a new feature that improves the package and reduces the cost, and is the best and cheapest one-pound glass package made. Send for circular and full catalog of hives, bees, and useful implements. . .

J. H. M. COOK, 70 Cortlandt St., New York

The Oldest Supply-house in the East, and only Reliable goods sold. 10 cents brings sample jar by mail.

Same Old Place

is where you get the best of queens; untested, $1.00; $4.25 per 6; $8.00 per dozen. Tested, $1.50; best breeders, $5. Absolute satisfaction and safe arrival guaranteed. Carniolans, Cyprians, Holy-Lands, Italians.

The JENNIE ATCHLEY CO.,
Box 18, Beeville, Bee Co., Tex

Yellow from Tip to Tip!!!

My Adel bees and queens are very handsome. Every queen a breeder, and guaranteed to produce Golden queens and beautiful bees; non-swarmers, very gentle, and hustlers for honey. Single queen, $1.00; three queens, $2.50; six, $4.50, or $8.00 per dozen. Large select breeding queen, $2.00 each. Every thing guaranteed.

H. ALLEY, - - Wenham, Mass.

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—FOR—
Bees-Queens-Supplies

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"ROOT'S QUALITY" BEE-SUPPLIES

Cash paid for beeswax. Send for catalog and price list. . . . . .

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Phone 1296



Fire Sale Bee and Poultry Supplies

Come or send, and save 25 to 50 per cent on slightly damaged goods. NEW LEWIS GOODS at factory prices by return freight. Honey and beeswax wanted. State lowest price and particulars. Honey in 5 gal. cans for sale.

Four per cent Discount for December Orders

H. M. Arnd, Propr. York Honey & Bee Supply Co. (Not Inc.)
Long Distance Telephone, North 1559. 191 and 193 Superior St., Chicago, Ills.

QUEENS AND NUCLEI FOR 1907

We book orders now for next season, at a discount, except for foreign lands. Price list free. . . . . We can furnish you Benton cages. . Information free.



D. J. Blocher

Pearl City : : Illinois

Bees - and - Queens

Golden Italians

The yellow-all-over kind.

Book all your orders before the rush comes, and you will be sure to get your queens on time.

I rear queens from select mothers only.

I am situated on an island that is entirely Italianized, and pure mating is practically insured.

My stock originally came from the best-known queen-breeders in the country.

I will begin April 1st and fill orders in rotation.

Satisfaction guaranteed.

Untested Queen	$1 00
Select Untested Queen	1 25
Tested Queen	2 00
Select Tested Queen	3 00
NUCLEI	
One-frame Nucleus, no queen	2 00
Two-frame Nucleus, no queen	3 00
Three-frame Nucleus, no Queen	3 50

H. M. PARKER, Jr.

James Island, South Carolina

Do You Want to Spare or Make Money? : : : :

SO READ HERE--This Ad. appears but once

STEEL TOOL.—Serves as hammer, hatchet, screw-driver, nail-lever, wire-cutter, box-opener, pincers, pipe-tongs, screw-key. The tool in every respect answers all these purposes without moving the hand, either to screw a tool on or to do any thing else. Everybody should always have one in his pocket. Six-inch size, 40 cts.

BEE-KEEPERS, write at once for our American catalog of our bee-goods and specialties: it pays! *If you buy from us only a dozen escapes you save just a dollar.* You can, therefore, make money by selling cheap to neighbors. We want to send you, free, improved spring bee-escapes, 1 for 13c, 2 for 23c; 6 for 66c; 12 for $1.20. Strong cotton veil, 25c. Uncapping-knife, 40c. Excellent sting-proof rubber-gloves, with sleeves, 60 to 70c. Pincers to take queens carefully, 30c. Best tinned 1¼-inch honey-gate, 50c each. All goods of fine quality. Send international P. O. order, and try for a few cents.

DEALERS IN BEE-GOODS should not omit to write for our extremely low wholesale prices. You can sell of our specialties as much as you will. Practical rubber gloves from 25c up.

A. Mees, Mnfr., Herenthals, Belgium

Better than an Island

This place is just as good as an island for breeding queens, for there are no other bees within five miles, and so pure mating is guaranteed. It is better than an island when you order queens, for the fastest trains stop here, and hence queens are not away from the colony long enough to impair their usefulness. Safe introduction is guaranteed if you follow my special directions. I consider the Banat Caucasian bees the best and gentlest in the world. Banat Caucasian bees are bred here; other races in outyards. Queen-breeders should secure their breeding-queens from this pure stock. Order now. Banat Caucasian queen, $3.00. Caucasian queen, $1.50. Golden Italian, 75c. Tested queens, one year old, double these prices,

Dele Collins, Ph.D., Emporium, Pa.

Bees and Queens for 1907

I am fully alive to the importance and value of good queens for profitable keeping of bees. I think I can raise just as good queens as anybody. I will book orders for 1907 at the following prices: Each, 55c; $6.00 per dozen; $45.00 per 100. Also eggs to hatch, Buff Wyandotte, R. I. Red, S. C. Buff Orpington, Barred Rock. Circular free.

A. H. Kanagy, Milroy, Pa.

ITALIAN : QUEENS

Golden or leather colored. Send for circular telling of ONE COLONY which produced 280 FANCY SECTIONS in one season. Order now with cash. Untested queen, $1.00; six for $5.00; tested, $1.50 and up. Address

Robt. B. McCain, Rt. 1, Oswego, Ill.

Choice Italian Red-clover Queens

I will sell my choice Red-clover queens at 75 cts. each; six for $4.25. Tested, $1.25; six for $6.00. Every queen guaranteed to produce bees that work on red clover. I have sent out, during 1906, 1000 queens, and not a dissatisfied customer. Descriptive circular free,

Fred Leininger, Ft. Jennings, O.

DANZENBAKER HIVE

"Facts About Bees," a 64-page book written by Mr. F. Danzenbaker, giving a complete description of his famous hive and directions for using. Full of valuable information. Sent on receipt of a two-cent stamp to pay the postage. **Send for it.**

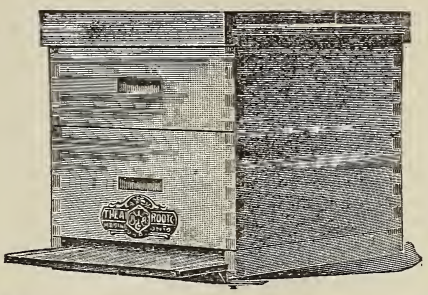
THE Danzenbaker Hive

THE COMB-HONEY HIVE.
Three points of Excellence:

QUALITY.
You can produce better-looking honey.

QUANTITY.
You can produce more of it.

PRICE.
You can get more per pound for it.



Special Notice.

The great popularity of the Danzenbaker hive has brought the shallow brood-frame and the tall plain sections into prominence. It must be remembered that no other hive contains the essential features of the Danzenbaker. The success of this system depends on having everything just right, so you should place your order for the Danzenbaker hive with our main office, or any of our branches or regular agents.

What Others Say About the Danzenbaker Hive.

The A. I. Root Co., Medina, Ohio.

Dear Sir:—Though rather late in the season, I send you report of my labors in the apiary the past season and my success with the bees. I started with 44 colonies in the spring and increased to 54 colonies. I made that much increase because I had purchased ten Danzenbaker hives to experiment with. I am highly pleased with the experiment. My Danzenbaker hives produced about 33⅓ per cent more honey than the eight-frame Dovetailed hives. Bees in this locality have done better than I ever knew them to do before. From my best hive I took off 116 well-filled sections. My average for the season was 60 nice well-filled sections to the colony, spring count. I want to increase next spring to 75 or 80 all Danzenbaker hives. J. H. McCARGO.

Arkansas, Nov. 17, 1906.

[We have permission to quote the following extracts from a private letter, which will show the opinion of a prominent bee-keeper.]

Dear Sir:— . . . I like the closed-end frames so well that I would prefer paying for them even if I could have Hoffman or loose-hanging frames for nothing. I can handle closed-end frames as rapidly as loose-hanging frames, and by proper manipulation very little handling of frames is necessary in this hive after the swarming season; and, as you know, we are not greatly troubled with propolis until after this period, so that the objections put forth by some of the older bee-keepers will not hold out. The Danzenbaker hive has proved so much better for me than the Langstroth or Chaff hive that I have discarded all other hives and now use the Danzenbaker hive exclusively. I have fifty of them in use at this writing, and expect to increase to 200. I will run one hundred in an out-apiary for extracted honey, as they have proved with me as good run for extracted as for comb honey. . . . It is a wonderful hive, and has many points of merit not found in any other hive on the market. I can tell you more about this hive but have confined myself strictly to your questions.

I am a user of the Danzenbaker hive, and can honestly say that I do not believe there is anything can equal it in the production of fancy comb honey. I took the first prize on comb honey this fall at our State fair, Trenton, N. J., the honey being in the Danzenbaker sections and off of the Danzenbaker hive. This season white clover gave only a light crop, but I averaged a little over 100 lbs. per colony, spring count.

Stanton, N. J., Dec. 7, 1905. LEVI K. COLE.

Gentlemen:—Let me tell you of the result secured from the three-frame nucleus purchased of you. This was received here May 23d. This was given good care and has made me 64 pounds of surplus honey and will yet have to its credit about 32 pounds more. Is not that good for a "greenhorn"? But it was all on account of the worth of that queen. An experienced bee-man tells me that this was an exceptioally good queen. When he saw the immense swarm busy at work, and was told that only a short time before it was only a small nucleus, he remarked, "Got them of Root, did you not?"

I give full credit to Root and the queen. I cared for them in a Danzenbaker hive according to Root's advice, and got the usual Root result.

Iowa Fs., Ia., Aug. 29, 1906. THOS. F. RIGG.

F. Danzenbaker, Patentee, Miami, Florida

For Sale by all Leading Dealers in Bee-keepers' Supplies

Classified Advertisements.

Notices will be inserted in these classified columns at 20 cents per line. Advertisements intended for this department should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

Help Wanted.

WANTED.—Competent bee-keeper wants bees on shares in Southern California. Address
J. M., care The A. I. Root Co., Medina, Ohio.

WANTED.—Manager for small-fruit and poultry farm of 20 acres. Must understand fruit, poultry, underdraining, etc. State salary expected, age, experience, references, etc. BOX A, GLEANINGS.

WANTED.—Local representative to handle the sale of our new Unrivaled Series of Charts and Surveys, showing every State and foreign country: reliable, historical, and descriptive matter, beautifully illustrated. We anticipate sale large enough to net our representatives from $300 to $800 in every county. Address Rand, McNally & Co., Chicago, Ills.

For Sale.

FOR SALE.—Cuban apiary. C, care of Root Co.

FOR SALE.—4000 ferrets; some trained. Prices and book mailed free. N. A. KNAPP, Rochester, Ohio.

FOR SALE.—At a bargain, machines for making bee-hives and sections. C. A. GRAVES, Shelby, O.

FOR SALE.—Fine job-printing outfit.
C. A. STEBBINS, Broad Creek, Va.

FOR SALE.—Beagle hounds, best blood; bottom prices; photo free. D. S. HALL, So. Cabot, Vt.

FOR SALE.—Smith Premier, Hammond, and Oliver typewriters. Prices from $25 up. Will exchange for wax or honey. THE A. I. ROOT CO., Medina, O.

FOR SALE.—Pedigreed Beagle hounds; guaranteed to run rabbits until shot or holed.
J. B. MASON, Mechanic Falls, Me.

FOR SALE.—Globe, 200-egg, hot-water incubator, and two large brooders, good as new. Will be sold at great bargain. THEO. W. FLY, Coffeeville, Miss.

FOR SALE.—Comb foundation, both brood and surplus. Beeswax worked into foundation at a very low price. Send for price list and free samples to
THE DELTA APIARIES, Delta, Colo.

FOR SALE.—A B C of Bee Culture (1907) free with order for bee-supplies amounting to $15.00 or over, at factory prices, before May 1.
S. D. BUELL, Union City, Mich.

FOR SALE.—Scotch Collies. The most beautiful and intelligent of all dogs. Blue-blooded puppies from champion prize-winning stock. Pedigree and photos on application. Address
M. G. VIGLINI, Route 20, St. Matthews, Ky.

FOR SALE.—Sixty-pound honey-cans, used but once, emptied without steam or water being used, therefore perfectly clean and bright. Price, ten-case lots or more, 35 cts. per case of two. E. R. PAHL & CO.,
Honey Dealers, Milwaukee, Wis.

FOR SALE.—Will sell my valuable ten acres of fruit and truck farm for one-half what it is really worth. One mile to center of good town of 7000; best market known for fruit, truck, and honey. Write for price and description. Great bargain here.
J. B. DOUGLAS, Mena, Arkansas.

FOR SALE.—Seed corn that will enhance your corn crop 10 to 25 per cent under favorable conditions, unless you already have an extra good kind.
D. E. LHOMMEDIEU, Colo, Iowa.

FOR SALE.—If you want an illustrated and descriptive catalog of bee-keepers' supplies for 1908 send your name and address to FRANK S. STEPHENS,
(Root's Goods.) Paden City, W. Va.

FOR SALE.—Till Jan. 1, best Wisconsin sections per 1000, $4.00; No. 2, $3.40; plain, 25c less. Big discount on Danz. hives and other Root's goods; also berry-boxes. H. S. DUBY, St. Anne, Ill.

FOR SALE.—Angora and Persian cats; mostly all colors. Persians pure white with blue eyes. Everybody admires these beautiful pets. Women make money raising them Good profits. Cats and kittens for sale at moderate prices. Also have ferrets for sale. Send stamp for circular.
MRS. J. F. SKEES, Marion, Ohio.

FOR SALE.—A Florida home is offered cheap, owing to old age and infirmities. Six acres of land, all cleared, and fronting on a fine lake. A good two-story house on cement foundations; a few bearing orange-trees and grape-fruit, guavas, and grapes in great abundance. A good chance for a bee-man. Twelve stands of bees in frame hives, on cement and iron. An excellent honey-extractor; ¼ mile to church and school; ½ mile to store and postoffice. Call on or write to me. J. A. BARBER, Chuluota, Orange Co., Fla.

FOR SALE.—I offer for sale my 40-barrel water-power roller mill with established trade; double circular saw-mill; stone dam; stone-quarry; good 10-room house, with hot water and bath room; good barn and carriage house; 16 acres of land; 5000-bushel elevator. This property is situated at the head of the Little Miami River, with 25-foot fall, located at Clifton, Greene Co., Ohio, 8 miles south of Springfield. For further particulars call on address
G. H. ARMSTRONG, Clifton, Ohio.

FOR SALE.—A two-story house of five rooms, three closets, two halls, a very dry cemented cellar, good basement barn, 10x12 hen-house, 8x10 hog-house, Barn is 20x20, 16 feet high; all improvements, three years old and A No. 1; three acres of dry and wonderfully productive land; 77 Early Richmond cherry-trees from 6 to 8 and 10 feet high, and thrifty; the remainder of 200 fruit-trees, plum and apples, of hardy varieties; also other shrubbery and fruits; four blocks from a college; six from a No. 1 public school; town of 2300 to 2400. No saloon for years. Presbyterian, Baptist, Methodist, Episcopal, Free Methodist, and Christian churches; also a small Catholic church. C., M., & St. P. R. R. and C. & N.-W. R. R.; fine cement walks; good reason for selling. Price $2250. My average yield per colony of extracted honey has been 83⅓ lbs. for three years. I can put 46 colonies, some containing imported queens, in at a low figure to a buyer.
DOUGLAS D. HAMMOND, Sac City, Ia.

Bees and Queens.

FOR SALE.—400 colonies pure Italian bees in lots to suit. Write for prices. F. A. GRAY,
Redwood Falls, Minn.

FOR SALE.—Two apiaries—one of 100 stands of bees close to Pomona, Cal., and the other containing 150 stands near Etiwanda, Cal. Will sell both or either one. For particulars address, enclosing stamp,
M. R. KUEHNE, 263 East 3d St., Pomona, Cal.

FOR SALE.—Am booking red-clover untested-queen orders now for May delivery at 75c each. Have all Caucasian orders I can fill.
W. T. LEWIS, Lewisburg, De Soto Co., Miss.

FOR SALE.—450 colonies Italian bees free from disease, in eight and ten frame Dovetailed hives heavy with honey. Super with each hive all painted two coats, $2.75 per hive, on Sacramento River.
ALBERT LANE, Vordan, Sac. Co., Cal.

Poultry Offers.

FOR SALE.—Choice poultry. Ten leading varieties for the farmer or the fancier. Circulars free.
A. H. DUFF, Larned, Kan.

FOR SALE.—M. B. turkeys. Hens, $3.00 each; Toms, $5.00 each; eggs in season, $3.00 per dozen.
A. P. YOUNG, Cave City, Ky.

FOR SALE.—S. C. White Leghorn Cockerels, $2.00; also pairs and trios. G. L. FERRIS, Atwater, N. Y.

FOR SALE.—150 White Wyandottes, Jannett's strain, old and young stock. There is no better stock anywhere. Prices: $1.50, $2.50, $3.50, and $5.00 each. Eggs, after January, $1.50 per 15. Address
JANNETT'S POULTRY YARDS, Caldwell, Texas.

Wants and Exchange.

WANTED.—Early American and foreign books on bee-keeping. A. L. BOYDEN, Medina, Ohio.

WANTED. A location for a custom feed and saw-mill. 4432 South Grand Ave., St. Louis, Mo.

WANTED.—To exchange modern firearms for incubators and bone-mills. Address
4432 South Grand Ave., St Louis, Mo.

WANTED.—Bee supplies in exchange for 300 colonies bees. Ad. elsewhere. Manufacturers write if interested. LEO F. HANEGAN, Glenwood, Wis.

WANTED.—Refuse from the wax-extractor, or slumgum. State quantity and price.
OREL L. HERSHISER,
301 Huntington Ave., Buffalo, N. Y.

WANTED.—Australasian readers to know that Root's publications, Root's strain of Italian bees, and Root's world-famed goods are all obtainable from
H. L. JONES, Goodna, Queensland, Australia.

WANTED.—To exchange one American hay-press, two-horse power, for pony saw-mill, planer, power feed or meal mill, standard bee-supplies, extracted honey, or any offers you have.
L. F. WEAVER, Dexter, Mo.

WANTED.—To exchange modern firearms for Indian relics. WM. S. AMMON,
4432 So. Grand Ave., St. Louis, Mo.

WANTED.—Every one who reads this to send a postal for my circular on Caucasian and Italian bees and queens. Important.
A. D. D. WOOD, Lansing, Mich.

WANTED.—Your name and address if you buy garden seeds. Will send you our beautiful 1907 catalog.
E. C. GREEN & SON, Box G, Medina, Ohio.

WANTED.—To print you 100 up-to-date calling or business cards for 40 cts. in stamps. Sample free.
H. H. HAWLEY, JR., Concord Junc., Mass.

Honey and Wax Wanted.

WANTED.—Choice white comb and extracted honey; clover preferred. B. WALKER, Clyde, Ills.

WANTED.—Comb and ext'd honey. State kind and lowest price. CHAS. KOEPPEN, Fredericksburg, Va.

WANTED.—Fancy white-clover comb honey. Write us. INDIANAPOLIS DAIRY CO., Indianapolis, Ind.

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity.
R. A. BURNETT, 199 S. Water St., Chicago, Ill.

WANTED.—Comb and extracted honey. Must guarantee pure and of best quality. State price and how put up. Cash paid. C. M. CHURCH, Arnold, Pa.

WANTED.—No. 1 and fancy white comb honey (unglassed), Danz. sections preferred.
THE A. I. ROOT CO., Medina, Ohio.

WANTED.—Beeswax. We will pay 30 cts. per pound for fancy pure yellow beeswax delivered in New York until further notice. CHAS. ISRAEL & BROS.,
486 Canal St., New York City.

WANTED.—Immediately, honey in large and small lots for spot cash. Only dealer in Utah selling Root's goods at factory prices. Write us.
SUPERIOR HONEY CO., Ogden, Utah.

WANTED.—In large or small lots, No. 1 white and amber extracted honey in 60-pound cans or barrels. Send sample and quote lowest cash price delivered in Preston. M. V. FACEY,
Preston, Fillmore Co., Minn.

WANTED.—Beeswax. Will pay spot cash and full market value for beeswax at any time of the year. Write us if you have any to dispose of.
HILDRETH & SEGELKEN,
265-267 Greenwich St., New York.

WANTED.—Well-ripened extracted basswood honey. Prompt payment on receipt; 7¾ cts. per pound, f. o. b. West Bend. H. C. AHLERS, West Bend, Wis.

WANTED.—Slumgum. Do not burn your refuse from wax-extractors. Send it to me and get your cash. ARCHIE L. COGGSHALL, Groton, N. Y.

WANTED.—20,000 pounds pure clover honey. Send average sample and state best price.
J. E. CRANE & SON, Middlebury, Vt.

WANTED.—Fancy white comb honey, also extracted honey in barrels. Send samples, and name best price delivered here. GRIGGS BROS., Toledo, O.

Honey and Wax For Sale.

FOR SALE.—Buckwheat honey, extracted, in 160-lb. kegs, at 6c. IRA WILSON, Ovid, N. Y.

FOR SALE.—Pure comb honey. Write for prices and description. H. W. DOERR, Beardstown, Ills.

FOR SALE.—Buckwheat honey in 60-lb. cans, at 6c per lb. C. J. BALDRIDGE,
Homestead Farm, Kendaia, Seneca Co., N. Y.

FOR SALE.—350,000 pounds California water-white extracted honey by the case or car.
H. J. MERCER, 731 E. Third St., Los Angeles, Cal.

FOR SALE.—2000 lbs. No. 1 buckwheat extracted honey in 60-lb. cans, at 6 cts., on car here. Sample free. E. D. TOWNSEND, Remus, Mich.

FOR SALE.—10,000 lbs. of clover and buckwheat honey at 8c per lb. for clover and 7c for buckwheat, in 60-lb. cans. G. H. ADAMS,
Mill St., Bellevue Sta., Schenectady, N. Y.

FOR SALE.—Three tons comb honey, white, at $3.50 per case, glass front, 24 sections to case; amber and buckwheat, $2.75 per case; unfinished sections, $10.00 per 100. All honey well ripened.
QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

FOR SALE.—Pure white-sage honey. One 60-pound can, cased, f. o. b,. $4.00; two cans. $7.50.
FRANK MCNAY, Redlands, Cal.

FOR SALE.—Extracted clover and linden honey in 60-pound cans, two cans in a case, at 8 cts. per pound; sample, 6 cts. C. A. GRAVES, Shelby, Ohio.

FOR SALE.—White-clover comb honey at $3.25 per glass-front case of 24 sections, 22 to 23 lbs. net; 20 lbs. net at $3.00. Amber, $2.75 and $2.50 per case.
B. HOLLENBACK, Spring Hill, Kan.

FOR SALE.—Choice extracted clover and basswood honey in 60-pound cans. It was extracted at end of season, and is very thick and well ripened. Price 8½ cts. per pound. Sample free.
J. F. MOORE, Tiffin, Ohio.

FOR SALE.—Amber and buckwheat comb honey, per case of 24 sections, $2.50; unfinished sections, $8.00 per 100. QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

FOR SALE.—2000 lbs. of Colorado alfalfa extracted honey. It is ripe, rich, and thick; 60-pound tin-cans, two in a case, at $10.00 a case.
A. A. LYONS, Fort Collins, Colo.

Bee-keepers' Directory

This department is for the exclusive use of all-year-round advertisers. If you have any thing the bee-keeper needs, your card in this department keeps your name always before your prospective customers at half our flat rates. We reserve the right to reject or modify any ad. not eligible to these special rates.

2 lines, 24 issues and GLEANINGS one year $ 5.00
3 " " " " " " 7.50
4 " " " " " " 10.00

Cash in advance. Ad's can be changed only in the first issue of January, April, July, and October.

MAPLEWOOD APIARY.—Choice comb honey, Italian bees and queens. GEO. H. REA, Reynoldsville, Pa. R. 2.

ROOT'S SUPPLIES at factory prices; wholesale and retail. ANTON G. ANDERSON, Holden, Mo.

ITALIAN BEES, queens, and bee supplies.
H. H. JEPSON, 182 Friend St., Boston, Mass.

ITALIAN BEES, queens, beeswax, honey, and bee-keepers' supplies. M. E. TRIBBLE, Marshall, Mo.

FOR SALE.—Bee-keepers' Supplies. Write for catalog. Lengst & Koenig, 127 S. 13th St,, Saginaw, Mich.

ITALIAN BEES and queens—red clover and golden strains. E. E. MOTT, Glenwood, Cass Co., Mich.

ITALIAN BEES, queens, honey, and bee-keepers' supplies. A. T. DOCKHAM, Box 95, Rt. 1, Eagle Bend, Minn.

SWARTHMORE APIARIES—Golden, Caucasian, Banat, Carniolan, Cyprian queens. E. L. Pratt, Swarthmore, Pa.

GOLDEN-ALL-OVER Italian, Caucasian, and Banat races. Bred by Swarthmore methods from best stock in the world, in three mating-yards with 600 twin mating-boxes. THE SNYDER APIARIES, Lebanon, Pa.

QUEENS.—Improved Red-clover Italians bred for business; June 1 to Nov. 15, untested queens, 60c; tested, $1.00 each. Safe arrival and satisfaction guaranteed. H. C. CLEMONS, Boyd, Ky.

Big Reduction in Supplies!

Until May 1

Big stock of Dovetailed hives and Marshfield sections to draw from. FREE—a year's subscription with order amounting to $15.00 or over. Send for 32-page illustrated catalog free. . . . . .

W. D. Soper, Jackson, Mich.
Rural Route 3

BOOKS RECEIVED

¶ From the Reliable Poultry Journal Publishing Company.

POULTRY HOUSES AND FIXTURES. Shows plans of low-cost, practical and labor-saving houses, designs for inside fixtures, roosting coops and coops for young chicks, and all necessary appliances for the poultry yard; 96 pages, 9x12 inches, illustrated. Price 50 cts.

ARTIFICIAL INCUBATING AND BROODING. Solves all problems of artificial incubating and brooding. Tells how to obtain strong-germed, fertile eggs, etc. Results gained from practical experience. 96 pages, 9x12 in., illustrated. Price 50 cts.

THE CHICK BOOK. Tells how to obtain good hatches; how to care for chicks of all ages; how to feed for breeders and for broilers and roasters; how to build coops; gives complete instructions in all work connected with successful chicken growing. 80 pages, 9x12 inches, illustrated. Price 50 cts.

THE PLYMOUTH ROCKS. Barred, buff, and white. Gives rules for mating followed by the most successful Plymouth Rock breeders, with a chapter and chart on line breeding. Contains color-plate of each variety. 110 pages, 9x12 inches, illustrated. Priec 50 cts.

THE LEGHORNS. The best illustrated standard of all varieties of the popular Leghorns. Mating schemes clearly described. Color-plate of S. C. W. Leghorns. 78 pages, 9x12 in., illstd. Price 50 cts.

ASIATICS. A work on Brahmas, Cochins, and Langshans Contains "inside" information necessary to success, with standard and ideal charts for all varieties. Color-plates of Buff and Partridge Cochins. 100 pages, 9x12 inches, illustrated. Price 50 cts.

DUCKS AND GEESE. Gives all details of hatching, rearing, fattening, and marketing. Describes labor-saving methods. 68 pages, 9x12 inches, illustrated. Price 50 cts.

TURKEYS. Every detail of the turkey business explained fully and clearly. Written by the world's foremost turkey growers. Contains color-plate of ideal Bronze turkeys. 84 pages, 7x12 inches, illustrated. Price 50 cts.

THE BANTAM FOWL. Mr. T. F. McGrew, judge and breeder, tells how to house, feed and grow bantams, how to treat their diseases, etc 72 pages, 9x12 inches, illustrated. Price 50 cts.

RELIABLE POULTRY REMEDIES. Points out the causes, describes symptoms, and gives simple and tested remedies for all diseases. 6x9 inches, 84 pages. Price 25 cts.

¶ The following books, French translations of the Swarthmore series, have been received from Mr. E. Bondonneau, Paris, France. Mr. Bondonneau has also translated the A B C of Bee Culture.

NUCLEI MINIATURES. The French bee-keepers are strenuously after Mr. Pratt and his system of queen-rearing, for, no sooner has his monograph on "increase" appeared than a translation follows of his "Baby Nuclei." The rendition of this work into French is evidently the work of an expert bee-keeper who wields a facile pen—in French. Evidently they do not have "babies" in *la belle* France, so they are content to use the title of "nuclei miniatures." Mr. Pratt may rest assured that not one of his ideas have been lost in the translation, for French is a scientific langgage, created for and by a scientific nation who are always ready to consider a new idea, no matter where it originates. Our French colleagues will find Mr. Pratt not "slow" on the subject of queen culture, even if he lives in the suburbs of Philadelphia. Mon. E. Bondonneau, 142 Fanbourg St., Denis, Paris, the authorized agent in France for Mr. Pratt's books and outfits, is responsible for the publication of "Nuclei Miniatures." Price 50 cts. each, postpaid.

ACCROISSEMENT. The above is not a new word, but is the round-about way the French have of saying "increase," which every bee-keeper who reads GLEANINGS regularly will understand at once. This is Mr. E. L. Pratt's (Swarthmore's) book on the subject, beautifully translated into French for the benefit of French readers. This work is not a liberal

translation, as that would be impossible, but at the same time not one of Mr. Pratt's ideas has been lost in the transferring, which so often happens when foreigners attempt to translate American "ideas" into French. Our French friends have many books of merit on bee-keeping, queen-breeding included, but we are sure they will find in this one some novel ideas well worth paying for. It is published by Mr. E. Bondonneau. Price 50 cts. We can furnish it at the publisher's price.

¶ The following book comes from the *Pall Mall Press*, London.

THE BEE-MASTER OF WARRILOW. By Tickner Edwards. The author is a well-known writer on rural subjects, and romantic articles on bees and bee-keeping, which have appeared in magazines and newspapers. In the 11 chapters of this little book he has produced some delightful stories in connection with bee-keeping, which will be found most interesting, even to those who do not keep bees.

From Dodd, Mead & Company:

THE SWARM, by Maurice Maeterlinck, translated from the French, 113 pages. "The book considers the different episodes of the swarm as they occur in the ordinary hive." Price $1.20.

We can supply any of the above books at publishers' price.

HOW TO KEEP BEES. By Anna Botsford Comstock; 228 pages; 32 pages of illustrations.

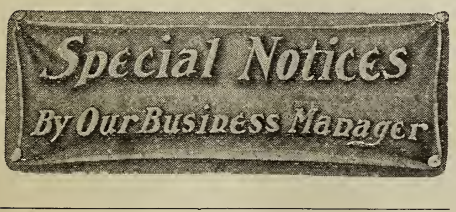
A charmingly written manual describing clearly and in detail the outfit, first steps, and methods. The author's well-known literary ability has combined with her enthusiasm for a subject to produce a very unusual volume. It is a handbook for those who keep bees for happiness and honey, and incidentally for money. It serves as well as an introduction to the more extended manuals already in the field. "Finally with all due deference to the authors of the excellent books on bee culture which we have already, my opinion is that this new book, 'How to Keep Bees,' is the best one for a beginner, or one who does not wish or expect to keep more than a dozen colonies, that has yet come before the world."—*A. I. Root, in Gleanings, July 1, 1906.*

Chap. 1. "Why Keep Bees," urges honey, perhaps money, recreation, love of nature study, and the need of bees in "a perfect garden," as good reasons for keeping bees. The second chapter tells "how to begin" in a small way, and we may get all the necessary detailed information for management from later chapters, arranged in order of demand for information.

Price $1.00. Postage 10 cents extra.

Money refunded to any dissatisfied purchaser.

The A. I. Root Co., Medina, O.



ADVANCING PRICES.

We are obliged to withdraw the special prices named a few months ago on tin cans and glass packages for honey. Tin cans have already advanced ten per cent, and manufacturers of glassware withdrawn prices owing to increased cost of material and labor. Prices will be those printed in our catalog for 1906 till further notice on tin cans as well as No. 25 and Simplex jars. We still have in the East some stock of Simplex jars, but are sold out here and in Chicago, and can not get more of the one-pound size from the factory for some time yet. We can get some holding about 13 oz. of honey at the same price, or some holding about 18 oz. at regular price, shipped direct from factory in West Virginia, if any one can use a jar a little larger or smaller than the regular size.

PRICE OF PERFORATED ZINC ADVANCED.

The price of sheet zinc has been advancing for two years past, and has now reached a point where we can no longer continue present prices on perforated queen-excluding metal. Accordingly we mark prices up an average of about ten per cent. The advance in zinc in the last two and a half years amounts to two and a half cents a pound, or over thirty per cent. As we are able to sell the punchings at a corresponding advance, we can get along for the present with a ten-per-cent advance. Revised retail prices are as follows:

Zinc sheets, 32×96, $1.65 each.

A corresponding advance is made in wholesale and jobbing prices.

HONEY BOARDS.

No. 1,	unbound zinc,	10-frame,	14⅛×19⅛	$1.55	for 10.
" 2,	"	" 10 "	16×20	1.70	" 10.
" 11,	"	" 8 "	12×19⅛	1.40	" 10.
" 9,	slatted wood-zinc,	8-frame,	13⅞×30	2.20	" 10.
" 10,	"	" 10 "	16×20	2.40	" 10.
" 12,	wood-bound zinc,	10 "	16×20	2.00	" 10.
" 13,	"	" 8 "	13⅞x20	1.85	" 10.

HALF-POUND TUMBLERS.

The half-pound tumblers we are now furnishing are a little smaller than those we had first. They will hold half a pound of honey without filling to the brim. Packed 4 dozen in a case, with corrugated partitions, $1.00 per case; 10 cases at 95 cts.; 50 cases or over, 90 cts. a case. Packed 32 dozen to the barrel, $5.00 a barrel. May be had from stock from here, New York, or Philadelphia.

BEESWAX WANTED.

Until further notice we will pay 28 cents cash, 30 in trade, for average wax delivered here or at our branch offices. This is an advance of one cent a pound in the cash price.

PRICE LIST FOR 1907.

The preparation of our catalog for 1907 has been very much interfered with and delayed because of the distraction of preparing and moving into our new building After we become settled in our new quarters we shall be in shape to turn out the work with greater dispatch. From present indications we shall not have catalogs in any quantity before the middle of January. Those wishing to take advantage of early-order discounts can order from the old catalog, as there are very few changes in prices

We are planning to list hives and supers with full sheets of foundation in the frames and sections, as well as with starters and without.

No. 2 plain sections will be 25 cts. per 1000 lower in price, as noted in August 15th issue; 5-lb coils No. 30 wire will be 10 cts. each higher. Perforated zinc is advanced, as noted in this issue. Several new items will be listed, such as the German bee-brush in black bristles at 25 cts.; in white at 30 cts. each; Alexander feeders at 25 cts. each, $2:20 for 10; Root wax-press, $6 00. This will be described in our next issue. Root smokers in copper, Jumbo and Standard sizes, will be 50 cts. each more than same size in tin. Hot-bed sash are 5 cts. each higher, and 8x10 glass for same 60 cts. a box higher.

In honey-packages the list prices are restored in the place of some special prices announced in this department a few months ago. We are planning to furnish more of the glassware put up in cases of two dozen each, with corrugated packing ready for reshipping when filled with honey without additional protection. Because of the increasing cost of materials and labor we may find it necessary during the year to make further advances in prices. If so, due notice will be given in this department. For the present the few changes in price noted above are all that the new catalog will contain, so far as we are able to tell at this writing.

Convention Notices.

At Brantford, Ontario, Canada, a district convention will be held in the City Hall, beginning Jan. 30, at 7 P. M., closing at noon, Feb. 1. Mr. S. D. House, Camillus, N. Y., has promised to be present. R. H. Smith, St. Thomas, Ont., Pres. Ontario Bee-keepers' Association, and F. J. Miller, London, vice-president, E. R. Root, and many others are invited to be present. For further particulars address the secretary of the convention, W. J. Craig, Brantford, Ont.

The Michigan State Bee-keepers' Association will meet at Big Rapids, Dec. 25 and 26. Special low rates have been secured at the Northern and Western hotels, with headquarters at the Northern, where probably the first meeting in the evening of the 25th will be held, and we expect the attendance the next day to be so large that we shall meet in their beautiful court-house, which has been granted us free of charge by the city. You can get special holiday rates on any train leaving your station on the 25th, but don't fail to start that day. A good program is being provided, and many of the most prominent bee-keepers of the State, Canada, and other States are expected.

GEO. E. HILTON, Vice-president.

THE CHICAGO SHOW.

The annual poultry, pigeon, and pet-stock show to be held in Chicago, Jan. 23 to 30 inclusive, 1907, will be an improvement on any of the series of high-class shows heretofore held under the management of the National Fanciers' and Breeders' Association The exhibits of stock, incubators, brooders, appliances, foods, remedies, and all things pertaining to the poultry, pigeon, and pet-stock industry, have at all times taxed to the utmost the capacity of the largest hall obtainable. The attendance of visitors, always great, was phenomenally large last year. Plans are now being perfected to make the exhibition, whether from the standpoint of the exhibitor, the visitor, or the management, better than ever before.

Premium lists giving names of judges, and the varieties to be passed upon by each of them, and all necessary information to intending patrons, will be issued about Dec. 15, 1906. Twenty thousand will be mailed, and it is the intention to have one sent to every interested person; but if for any reason it is not received, or additional copies are desired, write to the secretary, Fred L. Kimmey, 325 Dearborn St., Chicago, Ill.

Special Notices by A. I. Root.

Travels in the Black Hills, South Dakota, is crowded out of this issue by the Anti-saloon League Report.

OFF FOR FLORIDA.

Until further notice, all communications intended for A. I. Root personally should be addressed to Osprey, Manatee Co., Fla.; and if you want an immediate answer, please inclose an addressed postal card. I do not care so much about the postage; but I find that, in my old age, it takes a mental effort to decipher names and addresses. I have often thought I would not mind answering letters if I could just pick up a pen or pencil and go right into the subject without even asking somebody the day of the month or something of that sort. As I shall have no stenographer in my Robinson Crusoe island I can not write very *long* letters. I can fill out a postal card very comfortably, but that is about as much as I want to do at one time. Now, friends, with the above conditions and restrictions I am ready to give my opinion, and answer all your questions to the best of my ability, and remain

Your old friend and servant,

A. I. ROOT,

PROF. HOLDEN'S A B C OF CORN CULTURE.

On page 1454 I said, "Who can tell us about a corn-book?" The above has brought to light a book called "The A B C of Corn Culture; or, Making Two Nubbins Grow where Only One Grew Before," by Prof P. G. Holden, of the Iowa State College. Now, may be you will have to make some allowance for my extravagance and enthusiasm when I get hold of something that just suits me. Well, I consider the above book, which I now hold in my hand, the most valuable one for its size that has been given to the cause of agriculture in the last hundred years. It is not only of tremendous value to every man, woman, and child who grows an acre of corn of any kind, but it is the most wonderful opening-up and development of just what Luther Burbank, of California, and other enthusiastic workers have been at work on that the world has ever seen. We can understand it better than we can understand Burbank's works, because it is all about corn; and everybody, even the baby in the household, knows more or less about ears of corn.

I hope you have read my account of Prof. Holden's talk, published in GLEANINGS for Aug. 15. If not, get right at it and do it at once, and then you will be ready for this book. This work contains about 100 pages, printed on beautiful paper, and the half-tone cuts that embellish almost every page (and sometimes two or three of them on a page) are about the finest I ever saw in any publication. It contains all of the lecture I reported, and ever so much more; how to fit your ground, time of planting, and every thing pertaining to corn. Then comes the wonderful part about the selection of seed. The farmer who says he has not the time to fuss with such work will be almost as guilty as the man who goes to work and plants seed that he has good reason to believe will not make more than half a stand, not over half the seed germinating.

If these easy directions are followed, which are put down so plainly in the book, we can almost be certain there will be the right number of stalks in a hill; that every stalk will bear one or more ears of corn, and that the corn will be up to the highest type. You need not plead locality or bad seasons as an excuse for your slip-shod behind-the-times crop. Those who are working along the lines of this book get great crops of corn where their neighbors just over the *wire* fence have only half a crop or almost none at all.

The publishers of the book have kindly loaned me three cuts. The one given below, Fig. 34, shows how the children of the household can do the work if you only get them interested. No. 59 is a wonderful eye-opener. Those two ears of corn presented externally just the same appearance so far as one can judge; but, of course, there was a difference in the weight. Just think of it, friends! It is within your power to have your corn-cribs full of ears like No. 1 instead of No. 2.

No. 53, which we give below, shows what our Ohio Experiment Station did. Just think of *that* too!—a difference of *44 bushels to the acre* caused by the difference in seed and nothing else.

Now, if I am correct about it this carefully selected improved seed corn can not be purchased *anywhere*. You can grow it in your own fields or you can select some that will come pretty near it from your own corn-crib. But wherever you get it or however you get it, it must be tested; and the expense of testing, where you grow a number of acres of corn, is less than ten cents an acre—perhaps half that price if you grow forty or fifty acres. Is any corn-grower going to be so stupid or so indifferent to his own interests that he will go ahead and plant seed corn picked out of the

YIELD OF INDIVIDUAL EARS — OHIO EXPERIMENT STATION.

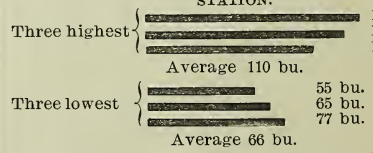


FIG. 53—Prof. C. G. Williams, of the Ohio Experiment Station, selected twenty-four of his best ears of seed corn. These were shelled separately and planted side by side, each ear in a row by itself. The corn was planted five kernels per hill, thinned to three stalks after coming up.

Notice—*First:* That one ear yielded at the rate of one hundred and fourteen bushels per acre, while another yielded fifty-five bushels.

Second: That the one-hundred-and-fourteen-bushel ear produced no worthless stalks, while the fifty-five-bushel ear produced fifty-eight barren or worthless stalks, yet each of these rows contained exactly the same number of stalks.

Third: That the second-best ear produced at the rate of one hundred and twelve bushels per acre, with only fifteen barren stalks, while next to the poorest ear yielded but sixty-five bushels per acre and had fifty-two barren stalks.

Fourth: That the three highest-yielding ears averaged one hundred and ten bushels per acre, while the three poorest of the twenty-four ears produced only sixty-six bushels, or a difference of forty-four bushels per acre.

corn-crib, or buy of some seed-grower, as he has been doing for years past?

Now, this book would be cheap at a dollar. Why, dear me! my honest conviction is, if I dared express it, that it would be cheap at *ten* dollars for the man who grows a dozen acres of corn, and yet the publishers have put an almost insignificant price on it. It comes from the Simmons Publishing Co., Springfield, O. If I am correct it is not for sale except in connection with their periodical. We can send you a book, together with the *Farm News* and GLEANINGS, for only $1.25. If you are already a subscriber to GLEANINGS you can have the book and the *Farm News* for a year, both for the small sum of 25 cents. We ought to send out a thousand copies within a month after this notice reaches you.

The *Farm News* is a live, wideawake, up-to-date home paper. It is now in its 26th year, and well worth the 25 cents without this wonderful book thrown in.

We grow a little corn for our horses. I did not get hold of the book in time to select my seed corn from the field, so I shall have to do the next best thing—pick it out of the granary. I presume ten ears of corn will be all we need; but I am going to test a hundred ears, and select the best ten for the seed we plant.

By the way, the book does not mention it, but this same scheme can be worked with sweet corn, popcorn, and every other kind of corn; and I think Young America will very soon find a way to make the same principle, with proper variation, work with all the grains and all the garden seeds and every thing else we plant. Why, the farming world has been blindly stumbling over a concealed gold-mine, right within easy reach of every man, woman, and child who starts out with a firm determination to plant *better* seeds than we have been planting. Why, bless your dear hearts, this thing is not confined to the vegetable world. It can be put in practice with bees and chickens, sheep, cattle, and horses, and no one now living probably catches more than a glimpse of what may be done in the years to come, right along this very line.

Now, if you do not get this book and read it, and give it to your children to read, and read it over and over again, I shall feel ashamed of our family of people who read GLEANINGS. Why, high-pressure gardening is *nowhere* compared with what may be done in the future with the help of this. Professor Holden is so interesting in his teachings that I think every member of your family will read the book or look at the pictures.

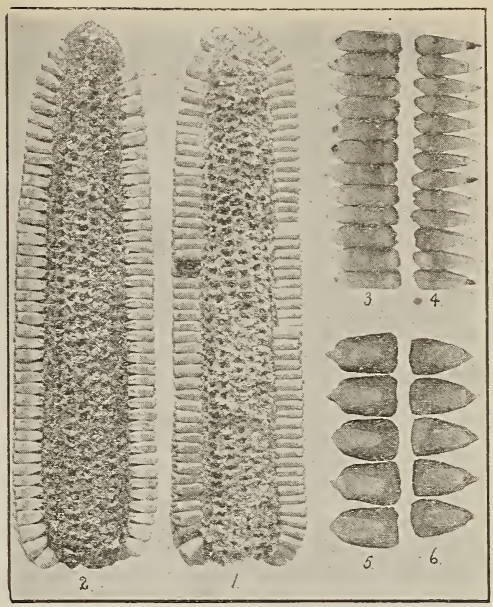


FIG. 59—Space between the kernels next to the cob objectionable. Ears 1 and 2 are the same length and circumference. Ear No. 1 weighed 13.45 ounces. Ear No. 2 weighed 10.12 ounces. Ear No. 1 shelled out thirty-three per cent more corn than ear No 2. No. 3 is edge view of the kernels taken from ear No. 1. No. 4 is edge view of kernels from ear No. 2. Nos. 5 and 6 is a flat view of the kernels. Ear No. 2 should be discarded for seed purposes. *First*, because it will shell out a smaller proportion of corn to cob; *second*, because it is poorer in feeding value; *third*, because the kernels give weaker stalks.

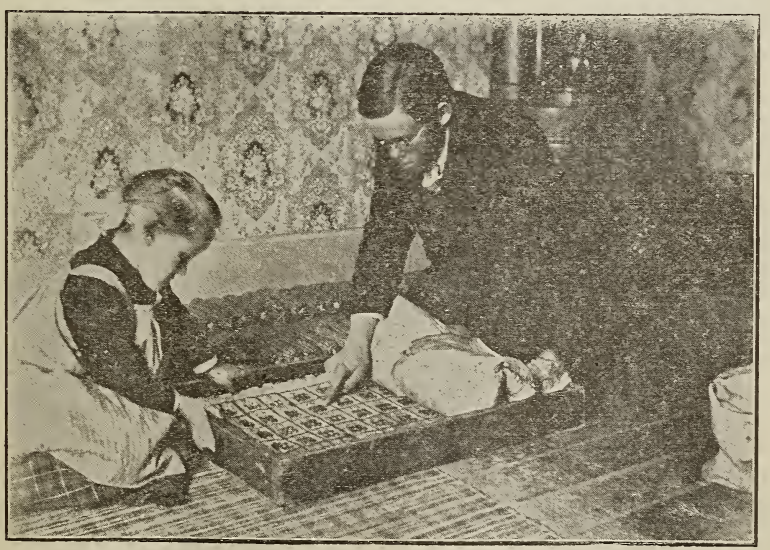


FIG. 34—Examining the Germination Box to Discover the Worthless Ears.

Hundreds of Iowa boys and girls tested the seed corn for the crop of this year. The young people in this case got too anxious, and will have to wait a few days until the germination is further advanced and the sprouts have grown two or three inches long.

Paroid Roofing—

BUY one lot of Paroid; open it; inspect it; apply it to your roof, and if then you are not satisfied that you have the *best* ready roofing made, send us your name and address, and we will send you a check for the full cost of the roofing including the cost of applying it.

The Roofing With a Money-back Guaranty

Paroid Lasts Longest

Because it is made of the *best felt*—made in our own mills (established in 1817); other manufacturers buy their felt outside and simply saturate and coat it.

Because it is *soaked* (not dipped) in a saturating compound which makes it water proof in *every fibre*.

Because it is coated on both sides with the *strongest, thickest, smoothest, toughest, most flexible* coating used on any ready roofing. Don't take our word alone for it. Compare Paroid with *any other*. You can see and feel the difference. Paroid does not break or crack in the coldest weather or run in hot weather.

Because it is applied with our patented square, rust-proof caps—water proofed on *both* sides—the *only* caps that will not rust, work loose and cause leaks.

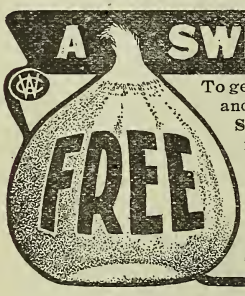
These are some of the reasons why we can give Paroid so strong a guaranty—*why* it lasts so long—why it is so largely used by the U. S. Gov't., railways, factories and farmers everywhere.

All we ask is that you *try it*, on our money-back guaranty.

If your dealer cannot supply you, don't take a substitute but send for samples and prices.

BUILDING PLANS FREE Enclose 4c in stamps and we will send you by return mail our 48-page book of plans for Practical Farm Buildings. Better do it at once.

F. W. BIRD & SON, 20 MILL ST., EAST WALPOLE, MASS. or 1420 MONADNOCK BLDG., CHICAGO.



A SWEET CHESTNUT TREE

To get this valuable **"Blizzard Belt"** Chestnut quickly introduced and at same time gain new friends, we offer to send a **Hardy Sweet Chestnut** tree 1 year old, entirely **Free** to a limited number of property owners not already our customers. Mailing expense 5cts which send or not as you please. A postal will bring the tree. Our **Catalog** containing 64 colored plates of our **"Blizzard Belt"** Fruits, Ornamentals, Evergreens, etc., and a mine of valuable information for fruit-growers is free. Write today.

The Gardner Nursery Company, Box 748, Osage, Iowa.

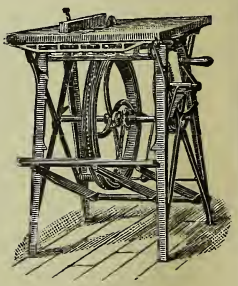
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The Southern Fruit Grower, Box 1, Chattanooga, Tenn.

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This cut represents our combined circular saw, which is made for bee-keepers' use in the construction of their hives, sections, etc.

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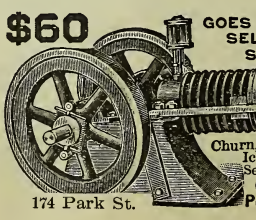
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THE BEST LIGHT

The only light that **makes** and **burns** its own gas at the extremely low cost of 2c per week and gives perfect service with **NO GREASE, DIRT, SMOKE OR ODOR.** Every burner equal to 100 candles burning at one time. Think of it—brighter than electricity or acetylene and cheaper than kerosene. You cannot afford to be without it. Over 100 styles. Every lamp warranted. Agents Wanted Everywhere.

THE BEST LIGHT CO., 306, E. 5th St., Canton, O.

$60 GOES LIKE SIXTY
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SELLS FOR SIXTY



GASOLINE ENGINES
for Pumping, Cream Separator, Churn, Washing Machine, Ice Cream Freezer, etc.
Send for catalogue.

174 Park St.

GILSON MFG. CO.
Port Washington, Wis.

A New Factory

and also a new firm name, but in the same place with the same management. We have just put in a complete

Weed Process Comb Foundation Factory

of the very latest type, and we are now ready to work up wax for western bee-keepers at low prices. . . We want several thousand pounds of beeswax at once, and will pay top market price for same. Let us hear from any one having wax to offer. .· .· .·

Buck & Wilson, Augusta, Kan.

Butler County

One step won't take us very far;
We have got to keep on walking.
One word won't tell folks what we are;
We have got to keep on talking.
One inch won't make us very tall;
We have got to keep on growing.
Promptness once won't do it all;
We have got to keep on moving.

Single orders are good enough in their place,
But more are necessary to keep up our pace.

No doubt you are planning for next season's supplies. Write us for catalog and other information. Give us a trial. We can please you. By handling the Root Co.'s goods with excellent shipping facilities, promptness, etc., we can serve you in a satisfactory manner.

John Nebel & Son Supply Co.

High Hill, Montgomery Co., Mo.

Mr. Texas Bee-keeper:

I should like to talk to you *personally.*

First, I want you to know about my supplies. I handle Root's Goods, of course; for I believe in giving my customers complete satisfaction—for that's better in the long run than low prices. My place of business is on the S. A. & A. P. Ry., just opposite the passenger depot, where I have built a warehouse 40×250 feet, and I have filled it full to the brim, for I handle Root's goods by the carload. This means I can furnish you with supplies with the utmost promptness.

Then, too, I have installed a complete Weed-process Foundation factory. I can turn out 500 lbs. a day. I can work your wax into foundation. In fact, my facilities in this line are not surpassed in Texas.

My can business is increasing by leaps and bounds. That is because of the quality of the goods. It will save you dollars to get my prices. Better write for them to-day.

Nothing pleases me better than for bee-keepers to make their headquarters at my office when in San Antonio. You are always welcome. I have fitted up my office with plenty of desks and chairs, with writing-material, a reading-table, and all the bee journals on hand. Consider yourself invited.

If you haven't my catalog just drop a postal.

I can supply Red-clover and Golden Italian queens promptly.

I am now paying 23c cash and 26c in trade for average clean beeswax delivered here. Save your slumgum. I will buy it. Let me know how much you have, in what condition the slumgum is, and in what kind of an extractor it was rendered, and I will make you price I am paying.

Call or Address

Udo Toepperwein, - San Antonio, Texas

1322 South Flores Street

Gloves for Handling Be

Something New. Something You Want.

Our specially prepared Gloves soften the hands, and prevent and cure chapped hands. The fa tains a preparation which prevents the gloves from becoming hard and stiff. We furnish them armlets or sleeves for using in sweeping, gardening, or general housework, driving, or outdo They are just the thing for driving in the rain, as they are absolutely waterproof. If worn at nig keep the hands soft and white. All their points of excellence can not be here enumerated, but th fail to give the greatest satisfaction. To introduce them, we will send by mail or with other goo following low prices:

Bee-gloves—long arms, fleece-lined in two sizes—large for men, small for ladies.....35 c
Men's gauntlets, fleece lined.....35 cents Ladies' gauntlets, fleece lined.....35 c
Ladies' unlined for wearing at night or doing light housework.....40 c

Early-order discounts on bee-supplies (excepting above and a few other articles) as foll
4% for cash with order before January 1st 3% for cash with order before February 1st

If you haven't our 1906 catalog send for one and a free copy of The American Bee-keeper (50c a ye

The W. T. Falconer Manufacturing Co., Jamestown, N

New Goods - Big Stoc

New Warehouse : Root's Goods : Prompt Shipment : Low Freight

Everything for the Bee-keeper at Savannah, Georg

We are prepared to furnish promptly a full line of supplies; choice new stock just from the factory. BEES and QUEENS. We have large apiaries of fine stock. Book your orders at once, as there will be a heavy demand this season. Catalog sent free. Correspondence solicited.

Howkins & Rush, 124 West Liberty St., Savannah, G

Dadant's..... ..Foundation

We guarantee it absolutely satisfactory every way.

Ask any dealer who handles our make along with any other, and he will say, "Of course, Dadant's is the best." Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation our SPECIALTY. We devote our time and energies to making THE VERY BEST COMB FOUNDATION that CAN BE MADE.

It will cost you no more than any other make. Send for free catalog and prices. Early-order discounts on all kinds of goods for the bee-keeper now.

We work beeswax into foundation.
We buy beeswax at all times.
Prices sent on application.

Dadant & Sons, Hamilton, Ills.

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for the West

Why put up with inferior goods when you as well have the best? They cost yo more. In many cases I can save you mo In all cases I give the most for the mo quality considered.

They are the ROOT GOODS, which I sell at the ROOT FACTORY PRICES DISCOUNTS.

My shipping facilities are unsurpassed where. Practically all points are reac by direct lines, thus insuring the lo freight rates.

Write for estimate with liberal discount orders sent in now.

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